

**CENTRAL UPPER PENINSULA  
COASTAL ZONE ATLAS**

**January, 1995**

**Prepared By: CUPPAD Regional Commission**

## **INTRODUCTION**

This coastal atlas contains a comprehensive inventory of coastal resources within the Central Upper Peninsula, including Alger and Marquette Counties on Lake Superior and Menominee, Delta and Schoolcraft counties on Lake Michigan. Existing land use, together with a variety of resources which represent potential constraints on or opportunities for development have been mapped and included in a digital data base, which is available to assist local units of government and others in making planning, zoning and development decisions.

The atlas contains sections for each county in the central Upper Peninsula which contains a portion of the coastal zone. Within each county, information is presented from west to east, by township and range. Where a particular feature is not present, no map is included; for example, there are no maps of critical dunes for Delta, Marquette or Menominee counties, and only two panels are printed in Alger and Schoolcraft counties.

All information in this atlas is contained in the CUPPAD Regional Commission's Geographic Information System (GIS). The various layers can be combined and the information presented at a larger or smaller scale, as necessary to aid in land use decisions. In some cases, as with the MIRIS land use/cover layer, more detailed information is readily available.

Preparation of this coastal atlas was underwritten by a grant from the Michigan Department of Natural Resources Coastal Zone Management Program, and by the CUPPAD Regional Commission.

## **INFORMATION LAYERS**

The following layers of information are included in this coastal atlas:

**Land Use/Cover:** The MIRIS database contains information on land use and land cover type, based on interpretation of 1978 aerial photos. Land use/cover types are grouped into several classifications, which in turn contain numerous categories and subcategories.

As part of the development of this coastal atlas, the MIRIS land use/cover information was updated based on 1986 aerial photos, the most recent available for the region. Where necessary, the land use or cover type was changed to reflect this more current information.

**Zoning:** Local units of government (counties, cities, villages and townships) may adopt zoning regulations which govern land use. While not all local units within the central Upper Peninsula have adopted zoning, the majority have done so; zoning within the coastal zone is shown in this coastal atlas.

**Wetlands:** Wetland areas within the coastal zone are mapped and shown in the printed atlas. Two sources of information were used to define wetlands -- the Michigan Resource Inventory (MIRIS), a digital land use/land cover database mapped from 1978 aerial photos, and the National Wetlands Inventory maps.

Both MIRIS and the National Wetlands Inventory delineate wetlands based on photo interpretation, rather than on data gathered from the field. Therefore, the boundaries of areas mapped as wetland may be inaccurate, and some small wetlands may not be mapped at all. However, both layers of information serve to provide an initial indication of the presence of wetlands, and it is vital that this information be obtained early in the decision-making process. Further field work is required to accurately assess the degree to which wetlands may affect land use and development decisions.

### **MIRIS Wetland Information**

The MIRIS database is maintained by the Michigan Department of Natural Resources, and is available in digital format for the entire state. Wetlands are defined as "those areas between terrestrial and aquatic systems where the water table is at, near or above the land surface for a significant part of most years." Examples of wetlands include marshes, mudflats, wooded swamps, and floating vegetation situated on the shorelines of bays, rivers, lakes, etc. However, open water deeper than two meters, or 6.7 feet, is not mapped as wetland.

### **National Wetlands Inventory**

The National Wetlands Inventory is a nationwide wetland mapping effort begun in 1975 by the U.S. Fish & Wildlife Service. Wetlands are mapped based on aerial photo interpretation and review of maps, soil surveys and other documents.

The wetland maps display wetland areas according to the National Wetlands Inventory maps. Wetland areas from the MIRIS land use/cover maps are shown on the land use/cover layer. Areas are shown as either wetland or upland, rather than mapping the various categories of wetlands. This was done to avoid unnecessary complexity; in the early stages of decision-making, the most important factor is the knowledge that wetlands exist in or near an area proposed for development. Both the MIRIS and NWI maps can then be referred to for further information, and on-site assessments and field work can be conducted to determine the exact nature and extent of the wetlands.

**Floodplains:** Floodplains are those low-lying areas adjacent to lakes and streams where the potential for flooding exists. Floodplains are mapped by the Federal Emergency Management Agency for those communities participating in the National Flood Insurance Program.

**Soils:** Detailed soils surveys have been completed for Delta, Dickinson and Menominee counties in the central Upper Peninsula. This atlas displays soils which have characteristics which may tend to constrain development in coastal areas, such as those which have severe limitations for installation of septic systems or construction of dwellings. This information will tend to "red flag" areas with potential development constraints due to soils; the appropriate soil survey can then be consulted for further information. Site inspections and soil testing are also recommended in order to clearly identify potential constraints.

**Environmental Areas:** Environmental areas are mapped by the Michigan Department of Natural Resources in accordance with Act 245 of 1970, the Shorelands Protection and Management Act. Environmental areas are those areas determined to be necessary for the preservation and maintenance of wildlife.

**High Risk Erosion Areas:** Coastal areas which are particularly prone to damage from erosion have been defined in coastal areas. Development in such areas is required to comply with a minimum setback from the waterline, and compliance with a more restrictive recommended setback is encouraged. Areas which are covered by these setbacks are mapped, together with the required and recommended setback depth.

**Critical Dunes:** The Michigan Department of Natural Resources has defined dune areas which are in need of special protection; these areas are included in this coastal atlas.

**Act 307 Sites:** In accordance with the Michigan Environmental Response Act, the Michigan DNR has identified sites of environmental contamination throughout the state. Those sites which are located in the coastal zone are identified by a map symbol, and narrative information regarding the status of these sites is also included. The location of most sites is approximate to the nearest 40-acre quarter-quarter section.

**Recreation/Public Access Sites:** Publicly owned and maintained parks and recreation sites and public access sites are mapped on the coastal atlas. The boundaries of large sites are shown on the Land Use layer, where recreation sites are mapped as open land; All sites, including those which are too small to map, are indicated by a symbol and map

number. Narrative information is also included for each site, summarizing the type of facilities offered at each site.

**Historical Sites:** Sites which have been identified as having historical significance are included in this atlas. In most cases these sites are too small to be mapped, and are represented by a symbol in this atlas. A narrative describing the various historical sites is included.

**Land Ownership:** The land ownership layer displays land in public ownership (federal, state and local), as well as lands designated as Commercial Forest Reserve under the Commercial Forest Act.

The Michigan Resource Inventory (MIRIS) classifies all lands in the state of Michigan according to land use and/or cover type. This classification is based on 1978 aerial photos; during preparation of this atlas, land use in the coastal zone was updated based on 1986 aerial photos and field checking.

Twelve land use/cover types are displayed in this atlas. The MIRIS database uses seven broad classifications, with several categories contained within each classification. The maps which follow display several categories within the Urban and Built Up classification (residential, commercial, industrial, transportation, extractive and open land), together with the other classifications of Agriculture, Nonforested, Forested, Water, Wetlands and Barren.

Following are brief definitions of the classifications and categories of land use included on the coastal maps:

**Residential:** Areas where the primary land use is residential dwellings, including single-family and multiple-family neighborhoods and mobile home parks.

**Commercial:** Shopping centers, business districts, and institutional uses (schools, hospitals, churches, prisons, etc.) are included in this category.

**Industrial:** Industrial parks and other industrial uses are mapped in this category.

**Transportation:** Airports, ports, and shipyards are included in this classification, along with facilities related to communications and utilities, such as substations, fuel tank farms, etc.

**Extractive:** Areas where open pit or underground extractive uses, such as sand and gravel pits, quarries, oil and gas wells, etc.

**Open Land:** Land and structures used for outdoor recreation, such as campgrounds, ballfields, golf courses, etc. Cemeteries are also mapped as open land.

**Agricultural:** Cropland, orchards, feedlots, permanent pastures and similar uses are included in this category.

**Nonforested:** Areas where the primary natural vegetative cover is shrubs or herbaceous species.

**Forested:** Lands covered by deciduous or coniferous tree species, including cutover areas which are expected to be reforested.

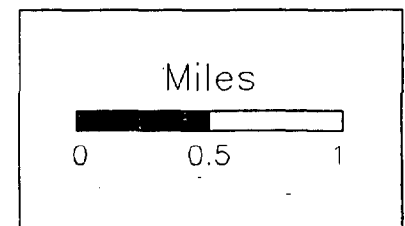
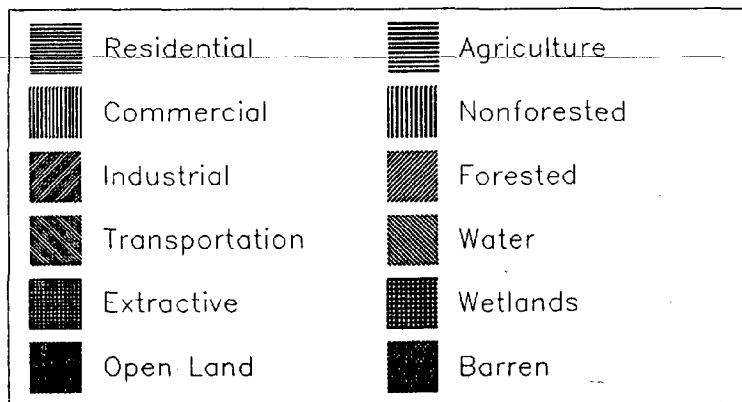
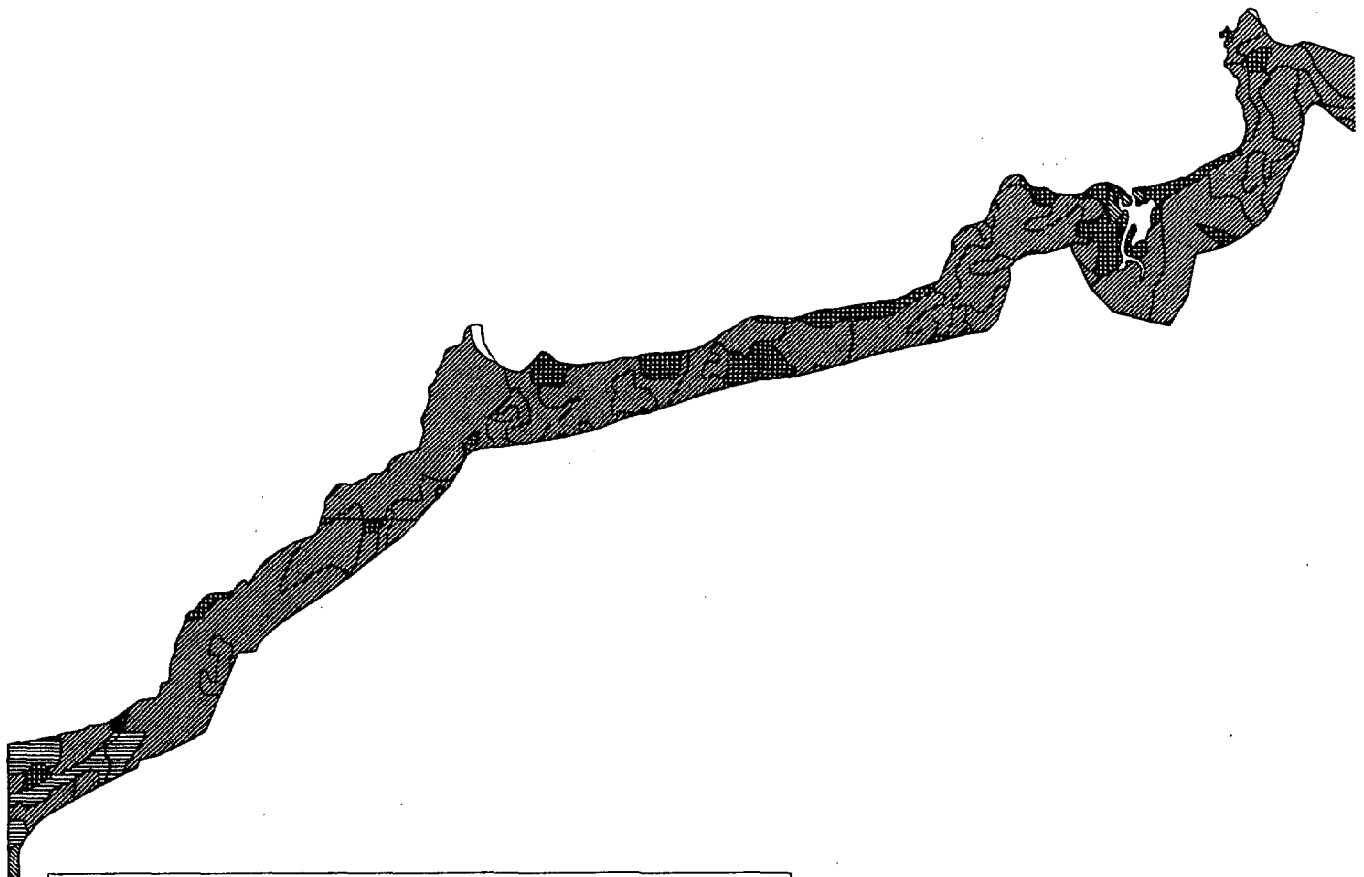
Water: Streams, lakes, rivers, etc.

Wetlands: Areas characterized by water tables which are near or above the surface of the ground for a significant portion of most years. For a more detailed discussion of wetlands in MIRIS, see the Wetlands narrative.

Barren: Barren areas are those with little or no ground cover, such as beaches, sand dunes, exposed rock, etc.

# Alger County Coastal Zone

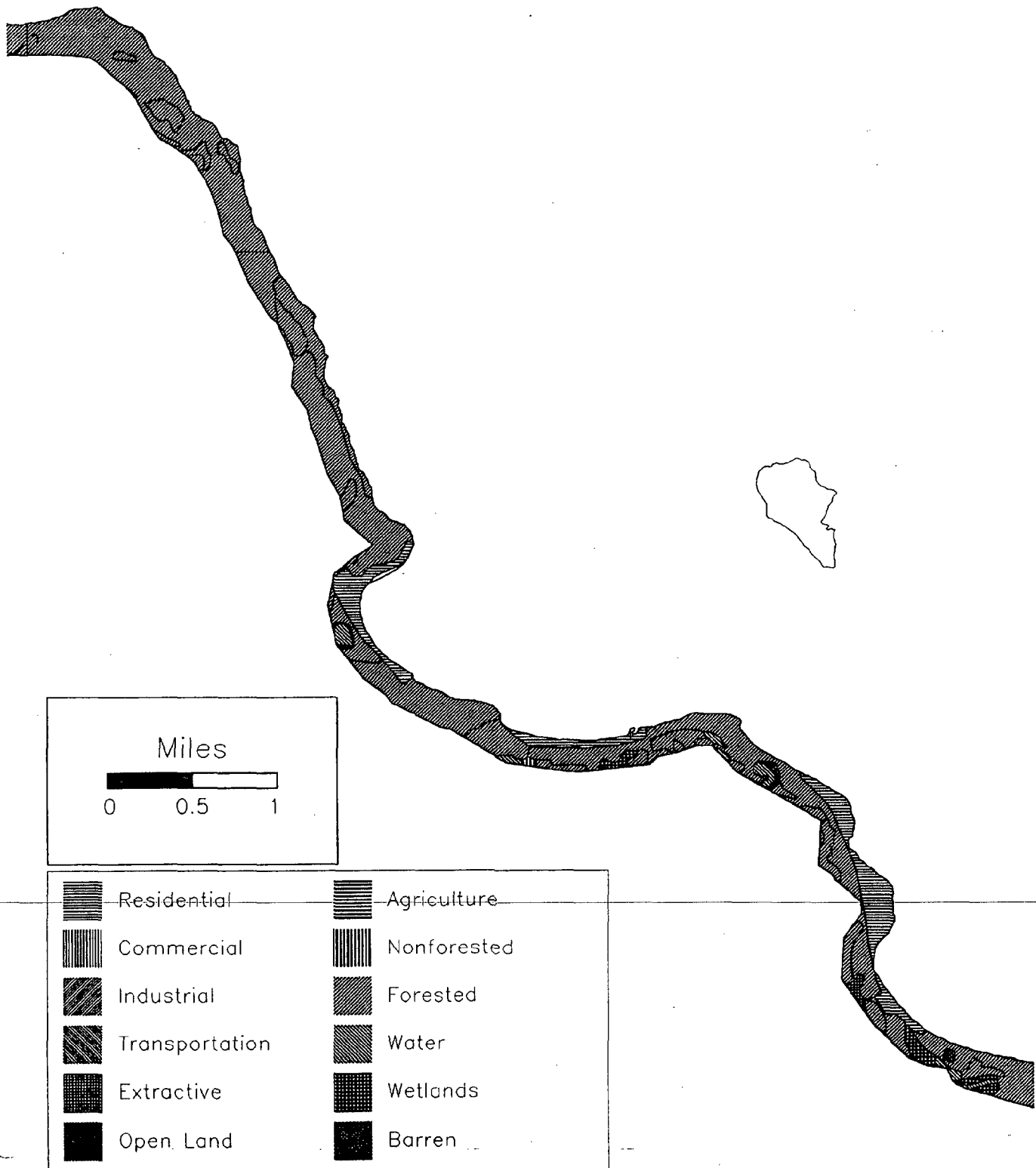
Land Use for T47-48N R22W





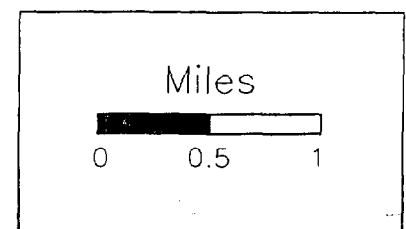
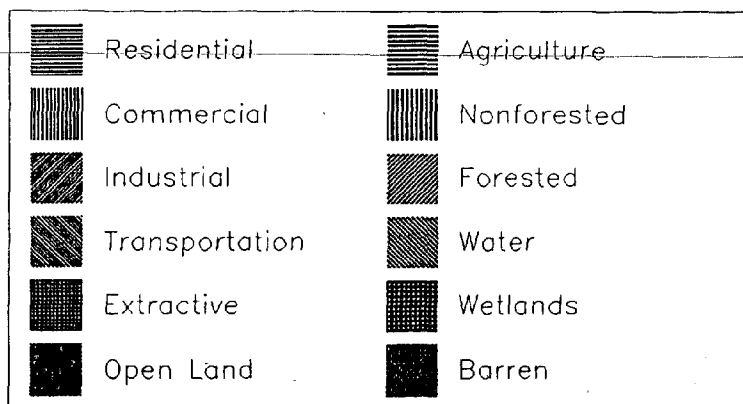
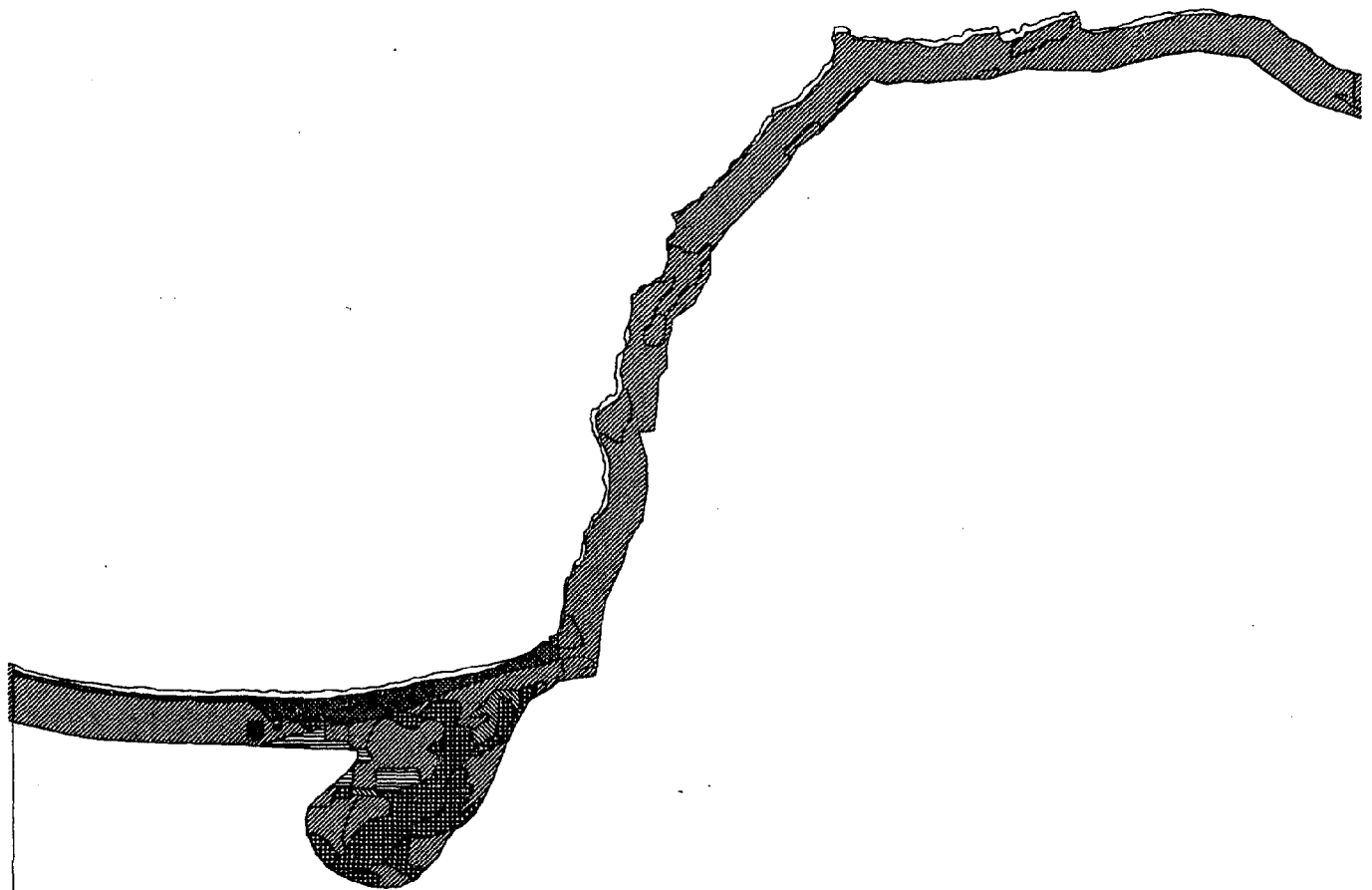
# Alger County Coastal Zone

Land Use for T47-48N R21W



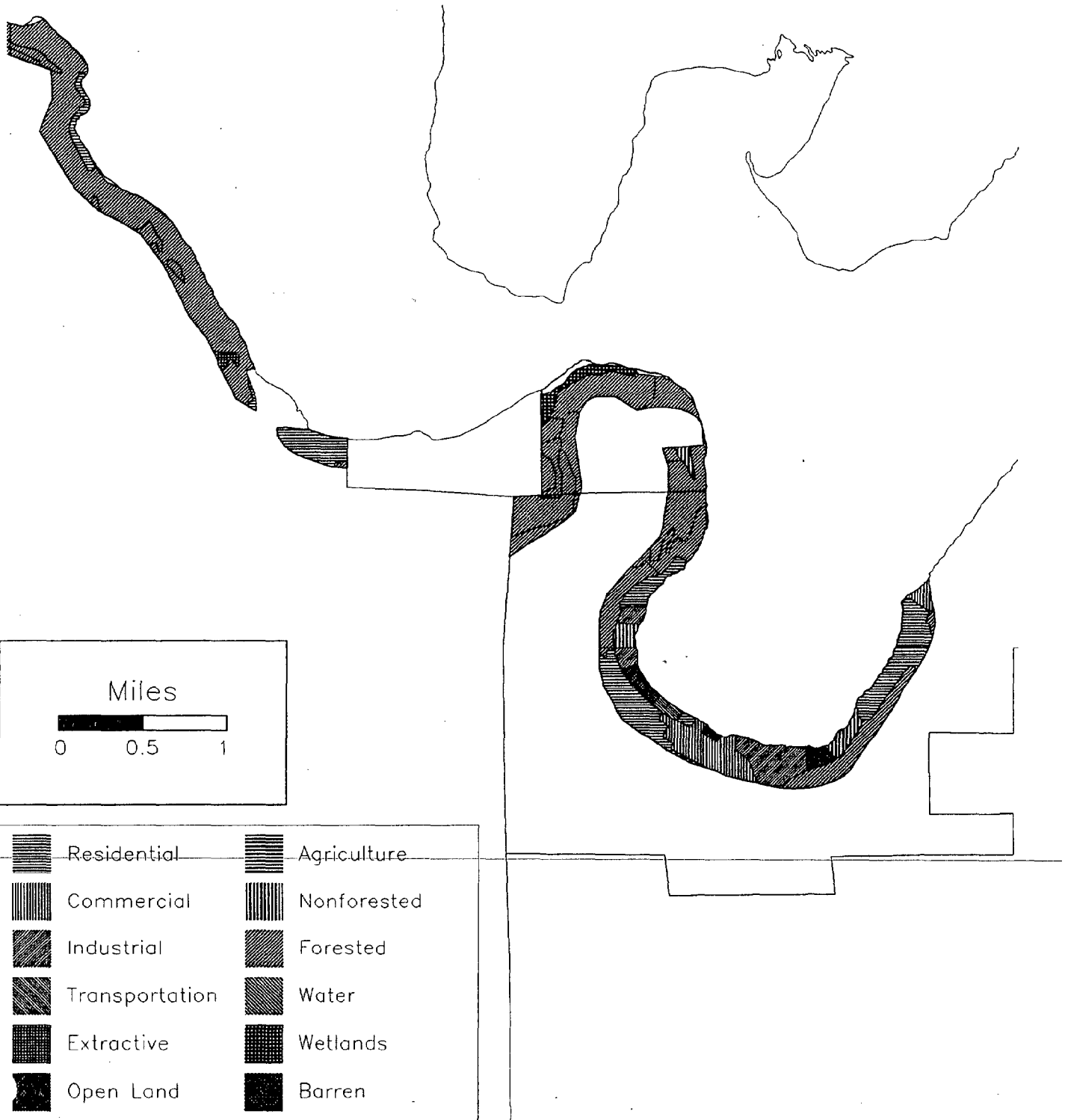
# Alger County Coastal Zone

Land Use for T47N R20W



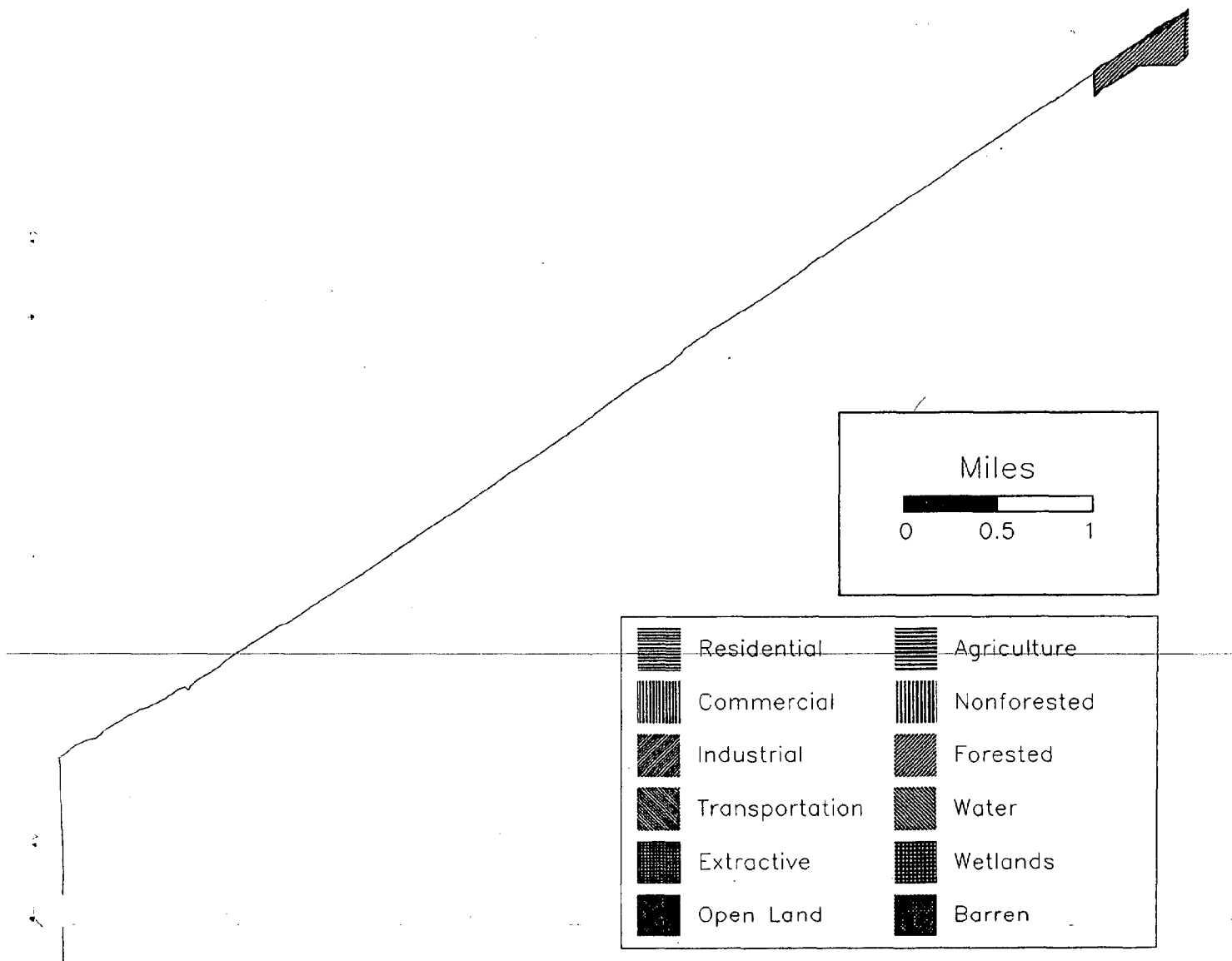
# Alger County Coastal Zone

Land Use for T47N R19W



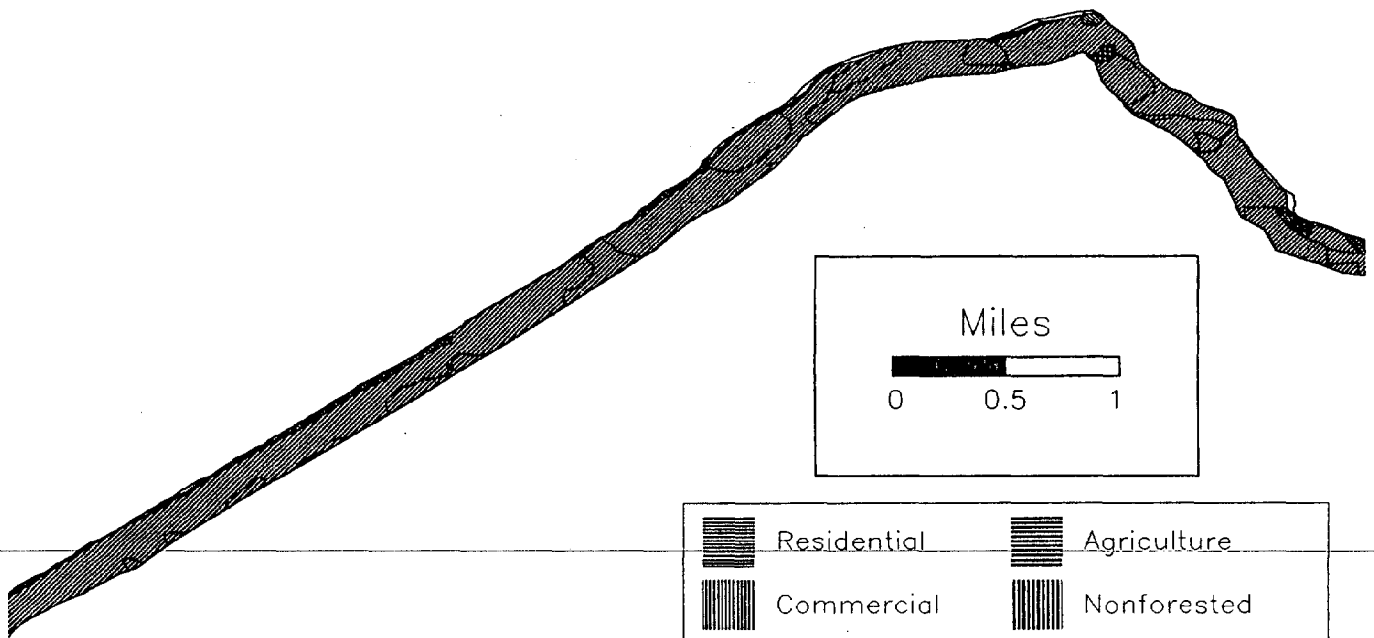
# Alger County Coastal Zone













Land Use for T48-49N R16W



# Alger County Coastal Zone

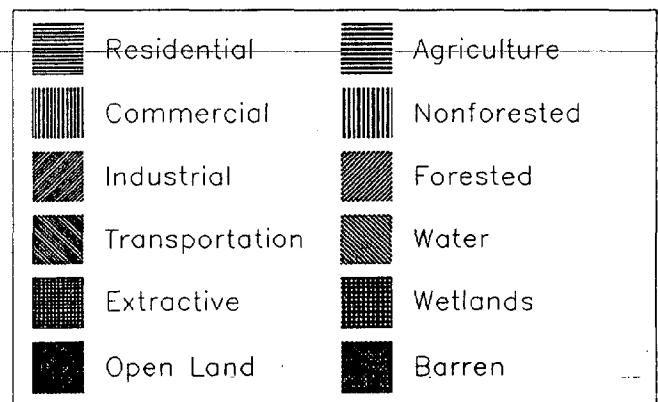
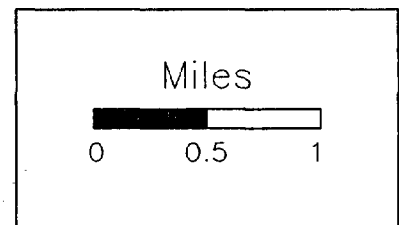
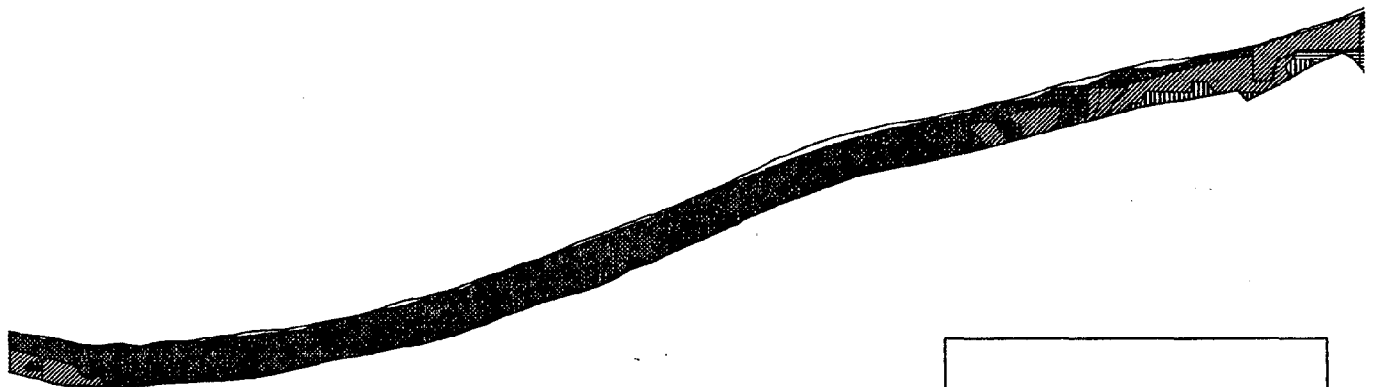
Land Use for T49N R15W



	Residential		Agriculture
	Commercial		Nonforested
	Industrial		Forested
	Transportation		Water
	Extractive		Wetlands
	Open Land		Barren

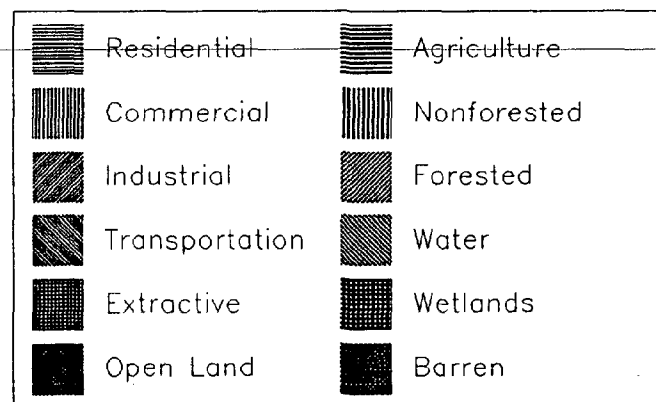
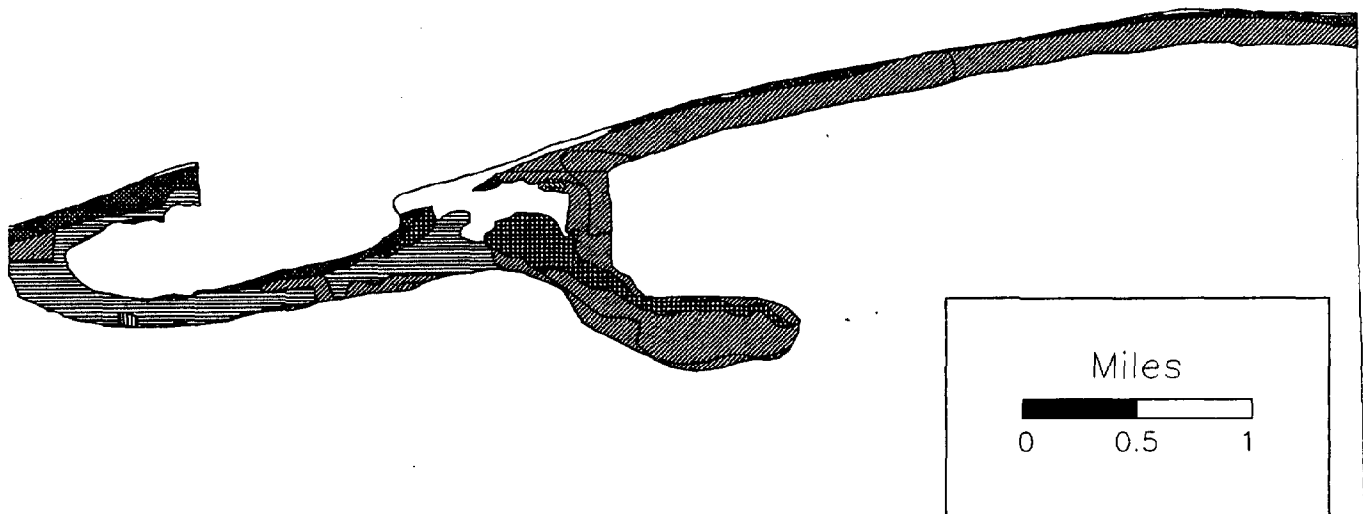
# Alger County Coastal Zone

Land Use for T49N R14W



# Alger County Coastal Zone

Land Use for T49-50N R13W



Local units of government in Michigan may adopt zoning ordinances under three enabling acts: the County Rural Zoning Enabling Act (1943 Act 183), the Township Rural Zoning Act (1943, Act 184), and the City or Village Zoning Act (1921, Act 207). All local units within Alger County are zoned.

In Alger County coastal areas, Onota and Burt Township have adopted township zoning ordinances. Au Train, Grand Island and Munising townships are covered by the Alger County Zoning Ordinance, and the City of Munising has adopted a zoning ordinance for the city.

A brief summary of the applicable zoning districts is provided below; for further information on permitted and conditional uses in each district, as well as local permit procedures, the appropriate local unit of government should be contacted.

Onota Township: The following zoning districts are found within the coastal zone in Onota Township:

**R Residential:** The intent of this district is to establish and preserve quiet single-family residential neighborhoods, free from incompatible uses. Minimum lot size is 40,000 square feet or 2 acres, depending on use.

**LS&R Lakeshore and River:** Recreational and residential uses in lakeshore and river areas are permitted in this district, on parcels one or two acres in size or larger.

**TD Town Development:** This district contains a mix of residential and commercial uses which are compatible with a small-town setting. Minimum lot size is one or two acres.

**TP Timber Production:** These areas are maintained for timber production and recreational use, with seasonal dwellings permitted. Parcels must be at least 40 acres in size.

~~**RP Resource Production:** Low intensity use of areas which are suitable for agricultural, forestry and recreational use is permitted in this district, on parcels of 10 or 20 acres or larger.~~

**R-5 Residential Five:** This district provides for low intensity residential and recreational uses on parcels of five or 10 acres or more.



**Burt Township:** Areas within the coastal zone in Burt Township fall within the following districts:

**R-1 Residential One:** The R-1 District provides for quiet neighborhoods with single-family dwellings, free of incompatible uses. Minimum lot size is 20,000 square feet.

**R-2 Residential Two:** This district is intended to provide areas for single-family and two-family dwellings, together with other uses which are compatible with such residential use. Minimum lot size is 20,000 square feet.

**B Bay:** Protection of the fragile coastal ecosystem, while allowing recreational and residential uses, is the intent of this district. Major considerations include preserving the quality of the Lake Superior shoreline and protecting the endangered Piping Plover. Lots in this district must be at least 20,000 square feet in size.

**LS/R Lakeshore and River:** This district is established for maintenance of residential and recreational use in inland lakeshore and river areas. Parcels in this district must be at least 30,625 square feet in size.

**C-1 Commercial One:** Residential, retail and service establishments which are compatible with each other are allowed in this district, on lots of 20,000 square feet or larger.

**C-2 Commercial Two:** Light industrial and commercial establishments, along with residential uses, are permitted in this district. Minimum lot size is 20,000 square feet.

**RF Recreational Forest:** This district is intended to promote the use, enjoyment and conservation of a variety of natural and other resources. Parcels in this district must be at least 10 acres in size.

**RP Resource Production:** Rural areas with a low density of development are maintained for forestry, agriculture, natural resource and recreational uses. Minimum lot size is 10 acres.

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**I Industrial:** Manufacturing, assembly, fabrication and processing operations, mineral extraction, and other industrial uses are permitted in this district, on lots of one acre or more.

**Au Train, Grand Island and Munising Townships:** Under the Alger County Zoning Ordinance, the following districts are included in the coastal areas of these three townships:

**R-1 Residential:** This district seeks to provide quiet neighborhoods for single-family homes, on lots of 20,000 square feet or larger.

**R-2 Residential:** Single-family homes, mobile homes and compatible uses are allowed in this district, on lots of 20,000 feet or larger.

**SD Seasonal Dwellings:** Areas which are suitable for seasonal, recreation and forestry uses are included in this district. Minimum lot size is one acre.

**TD-1 Town District:** A mix of residential and compatible retail uses in relatively high density are allowed in this district, on parcels at least 20,000 square feet in size.

**TD-2 Town District:** Lower-density residential and retail uses are allowed in this district, with parcel sizes of at least one acre.

**C Commercial:** This area is intended to accommodate light industrial and commercial uses; there is no minimum lot size requirement.

**I Industrial:** Industrial uses are permitted in this district, with no minimum lot size restrictions.

**PL Public Land:** The intent of this district is to establish and preserve areas for certain public purposes. There is no minimum lot size requirement.

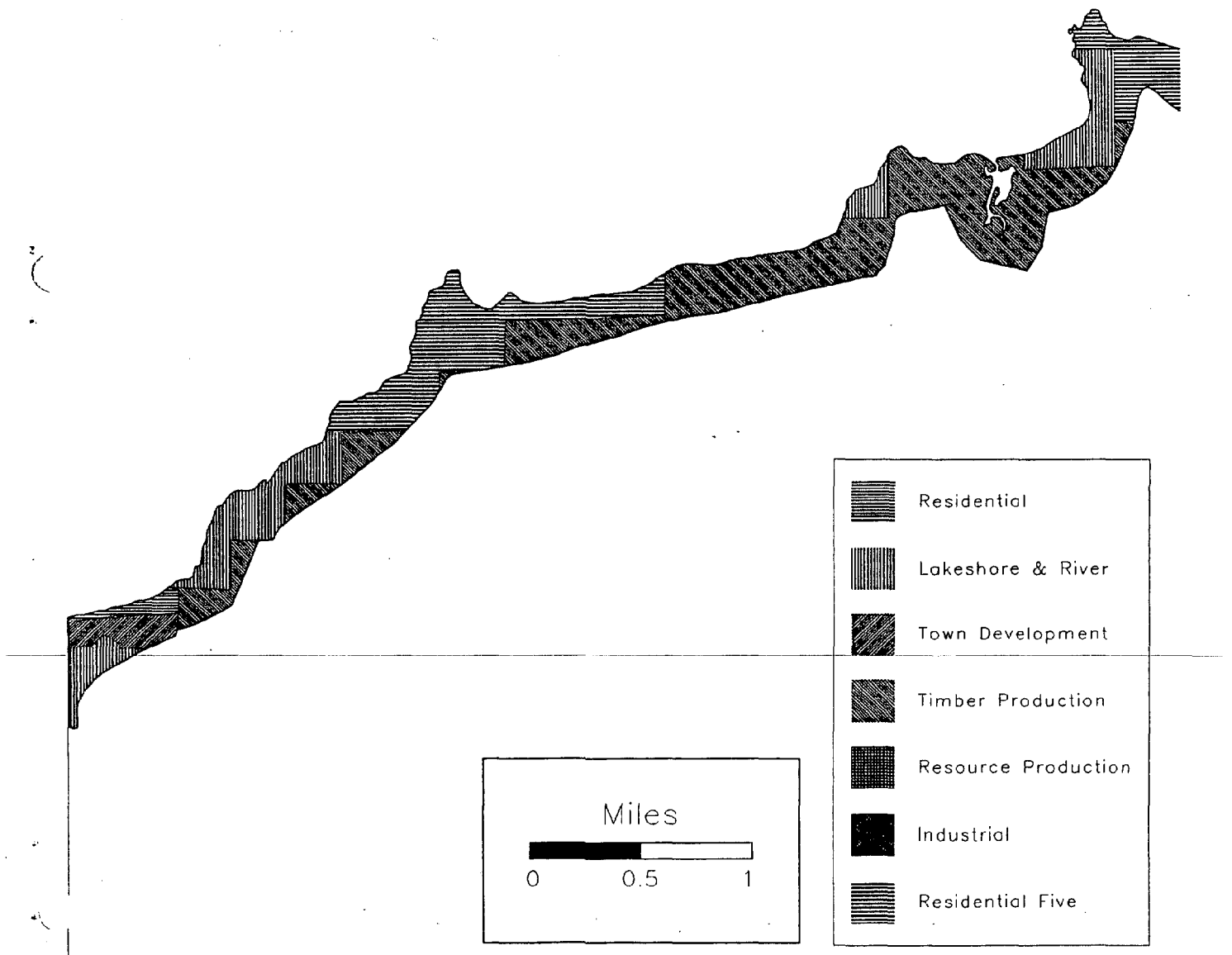
**NLBZ National Lakeshore Buffer Zone:** Areas in this district are included in the Buffer Zone of the Pictured Rocks National Lakeshore.

**RP Resource Production:** Low-intensity uses related to agriculture, forestry and recreation are allowed in this district, on lots of one acre or larger.

**TP Timber Production:** Areas in this district are maintained primarily for timber production, with no minimum lot size.

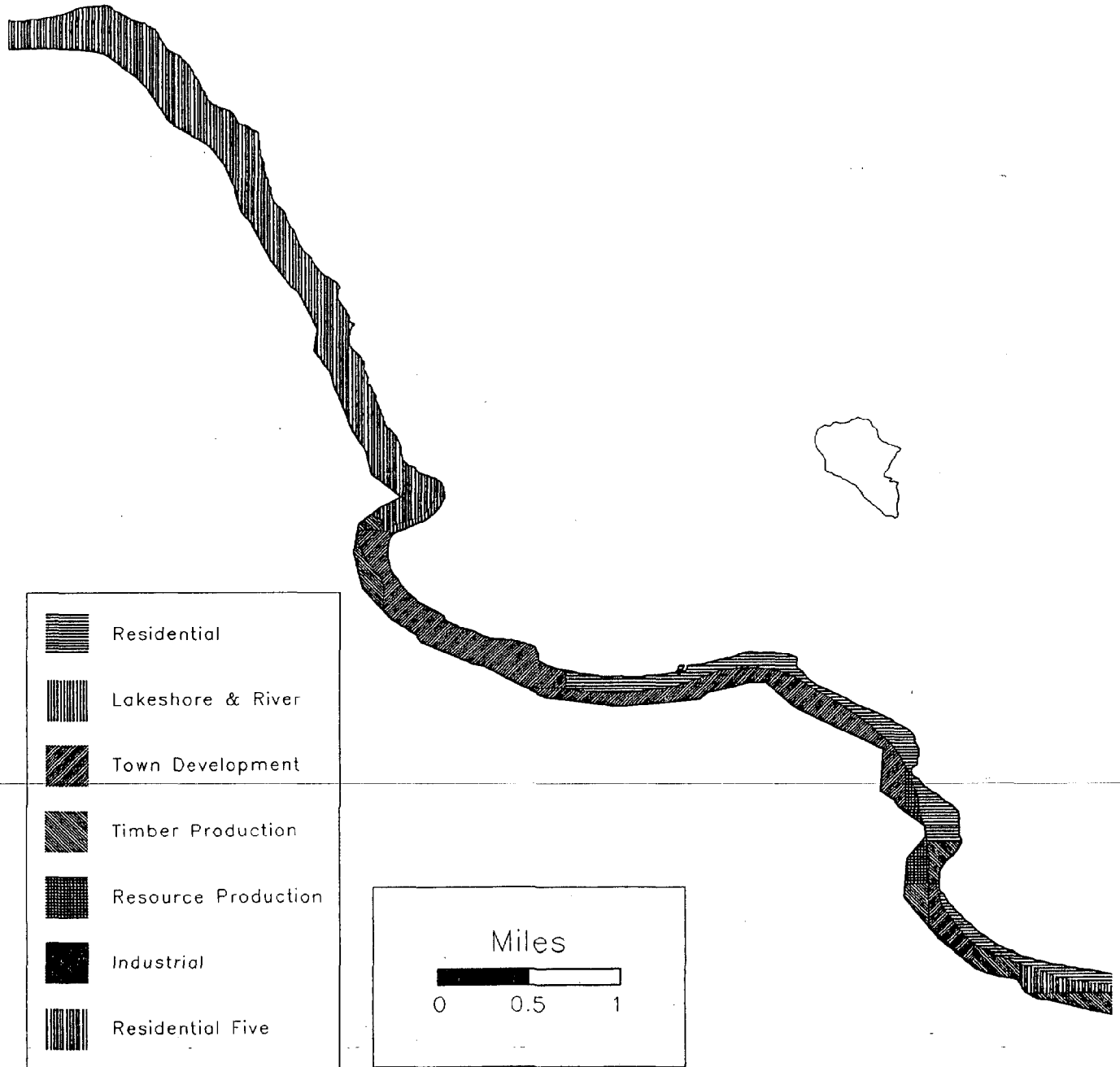
# Alger County Coastal Zone

Zoning for T47-48N R22W



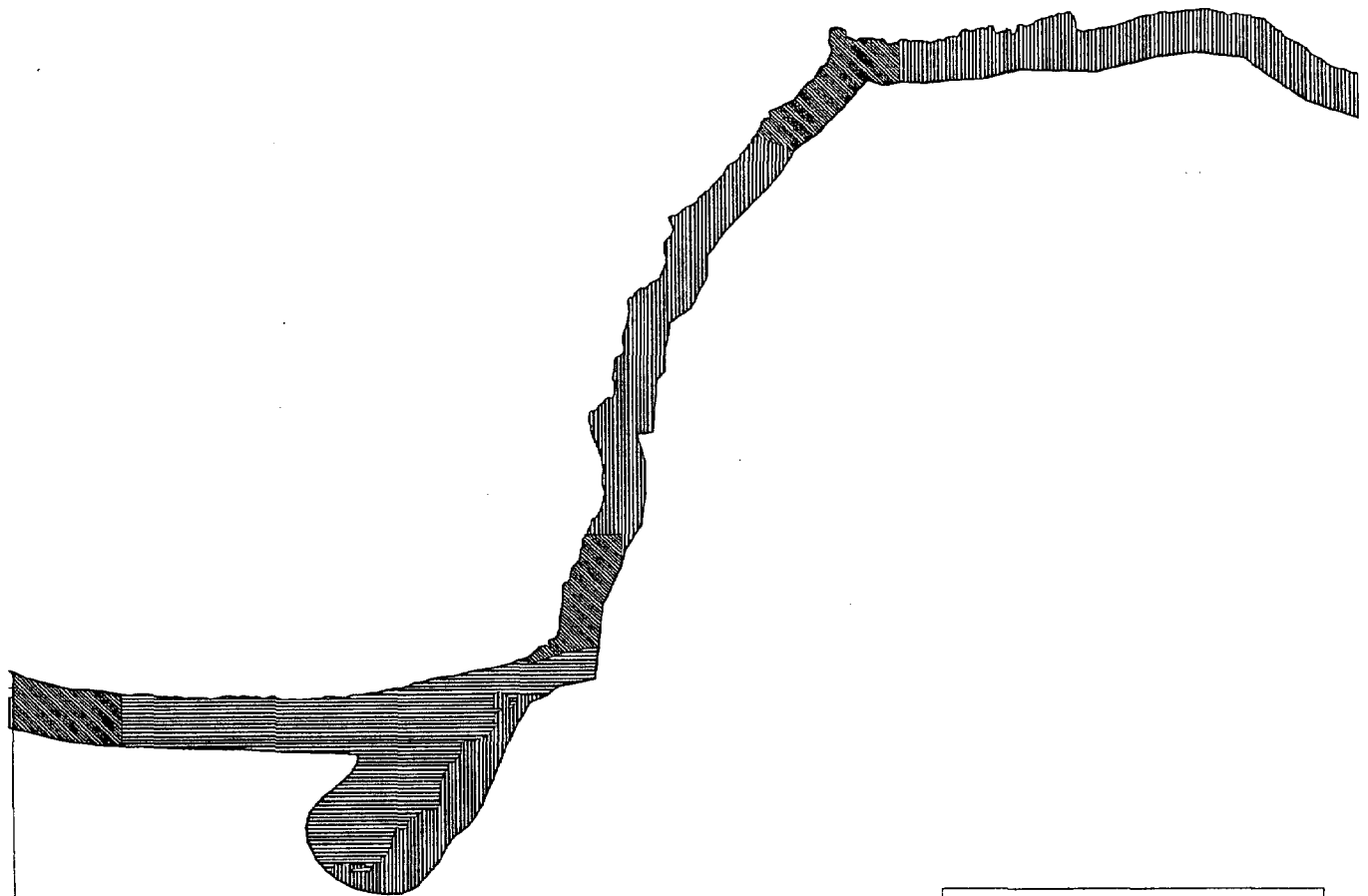
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Zoning for T47-48N R21W

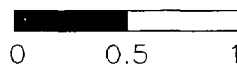


# Alger County Coastal Zone

Zoning for T47N R20W



Miles



Town District



Timber Production



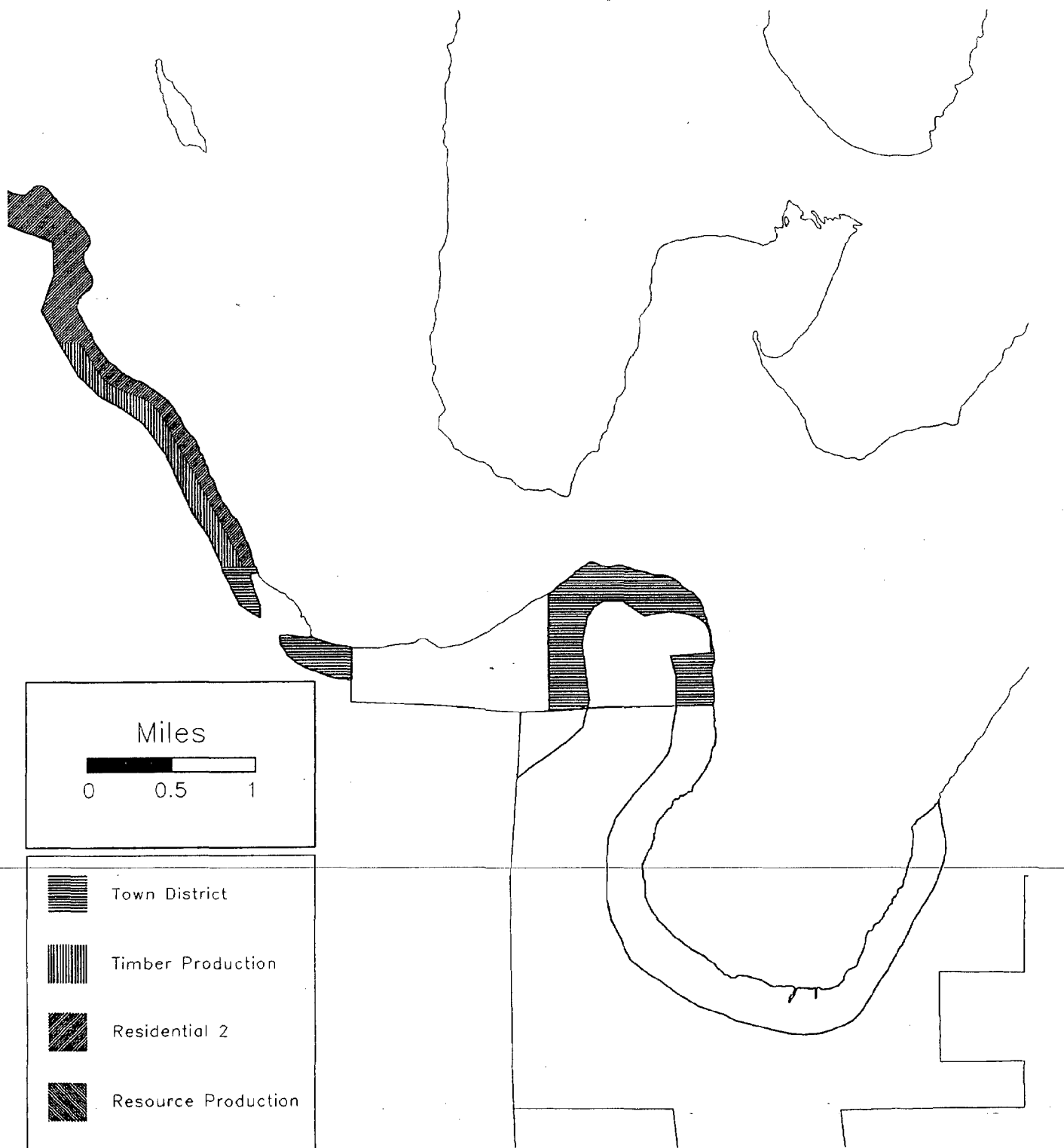
Residential 2



Resource Production

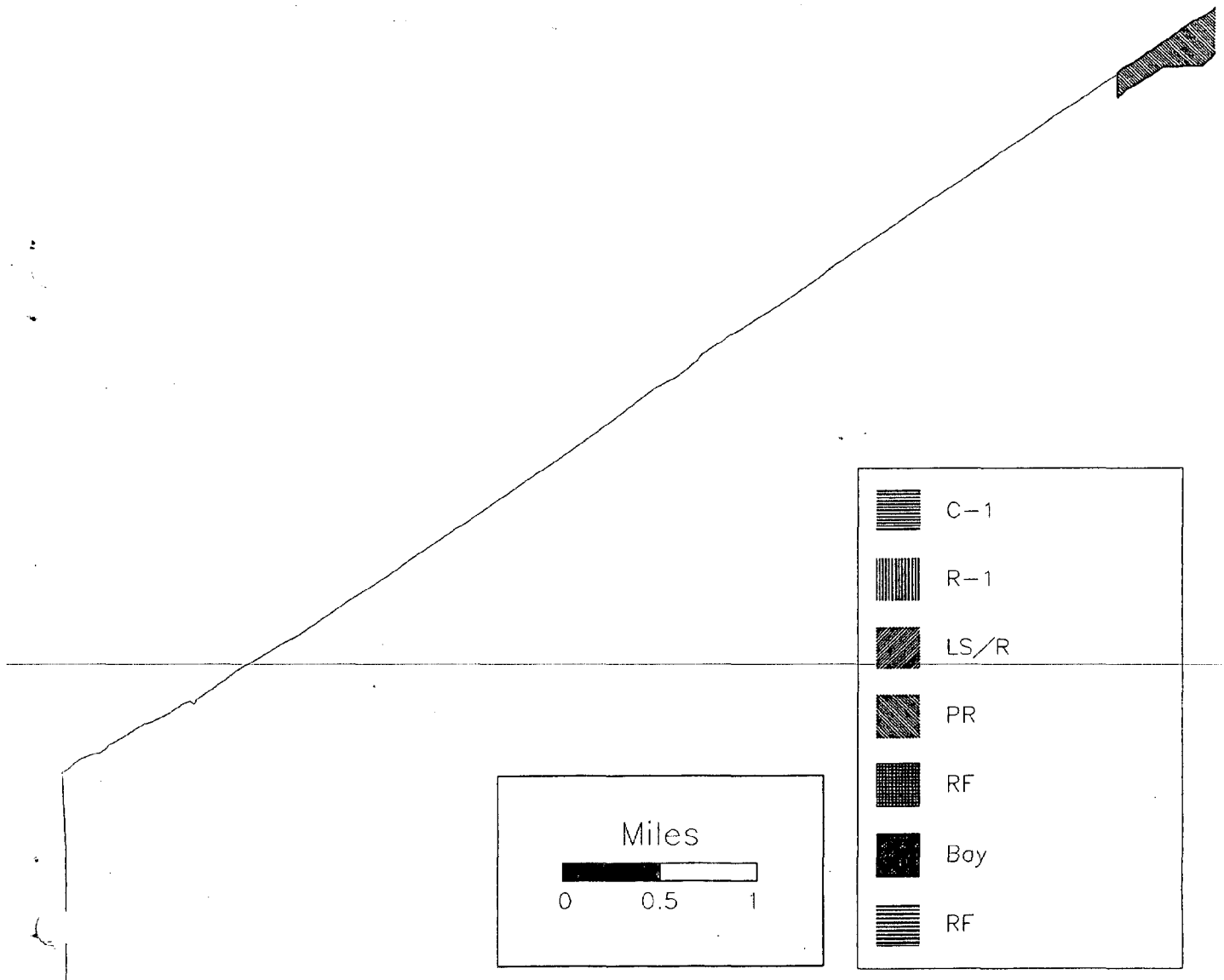
# Alger County Coastal Zone

Zoning for T47N R19W



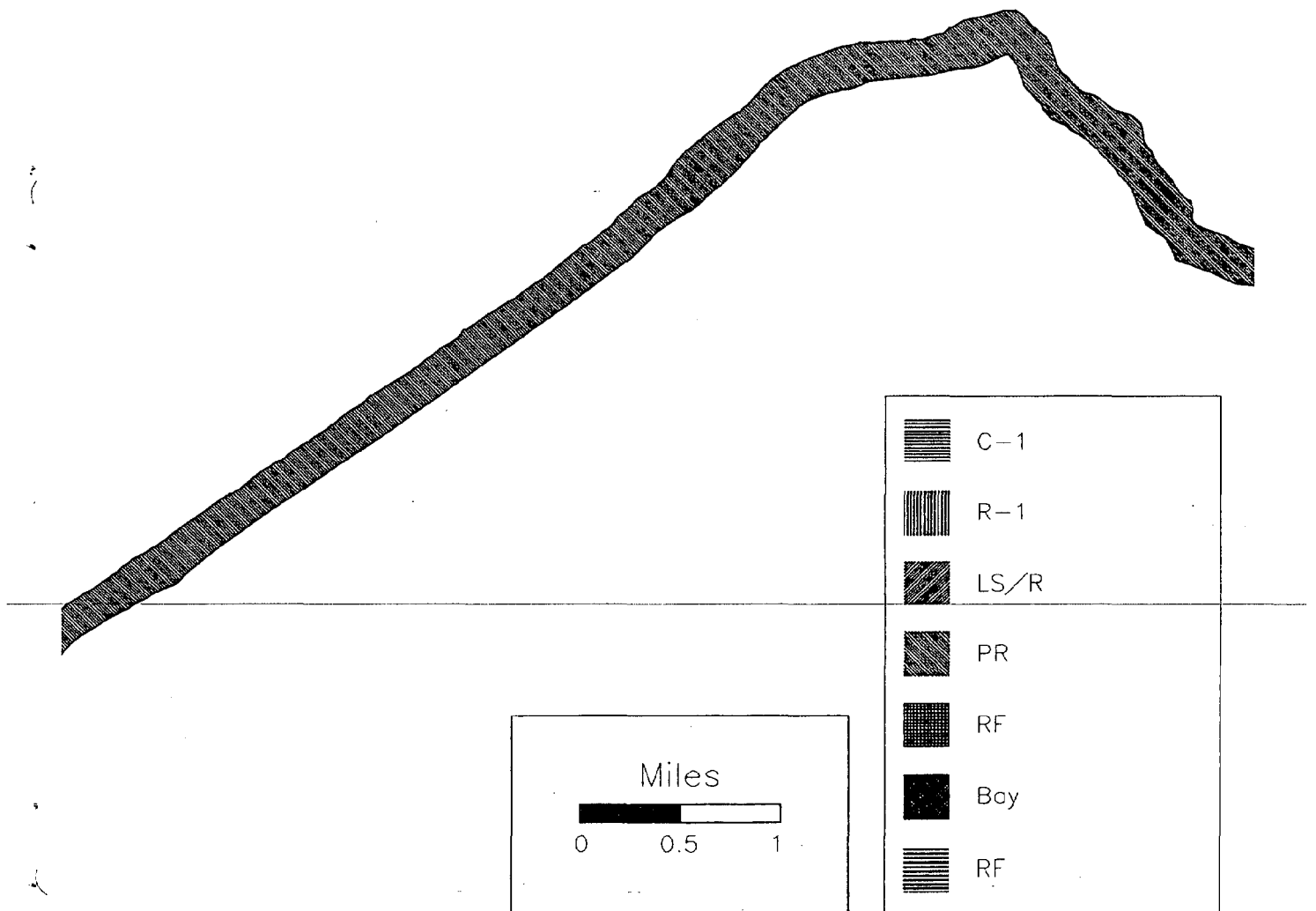
# Alger County Coastal Zone

Zoning for T48-49N R16W



# Alger County Coastal Zone

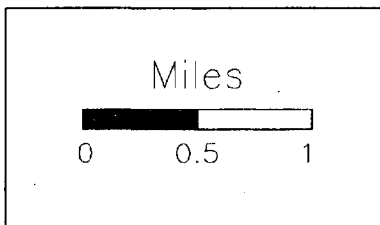
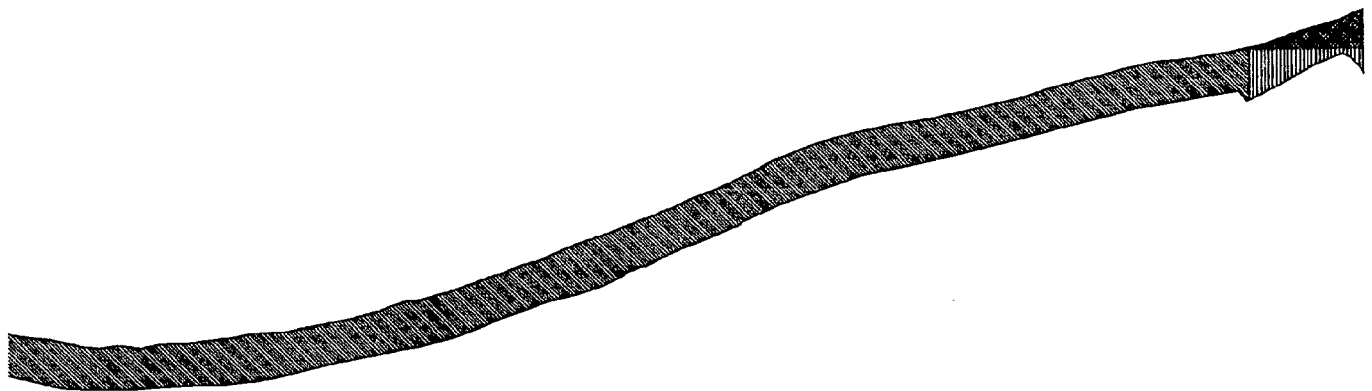
Zoning for T49N R15W





# Alger County Coastal Zone

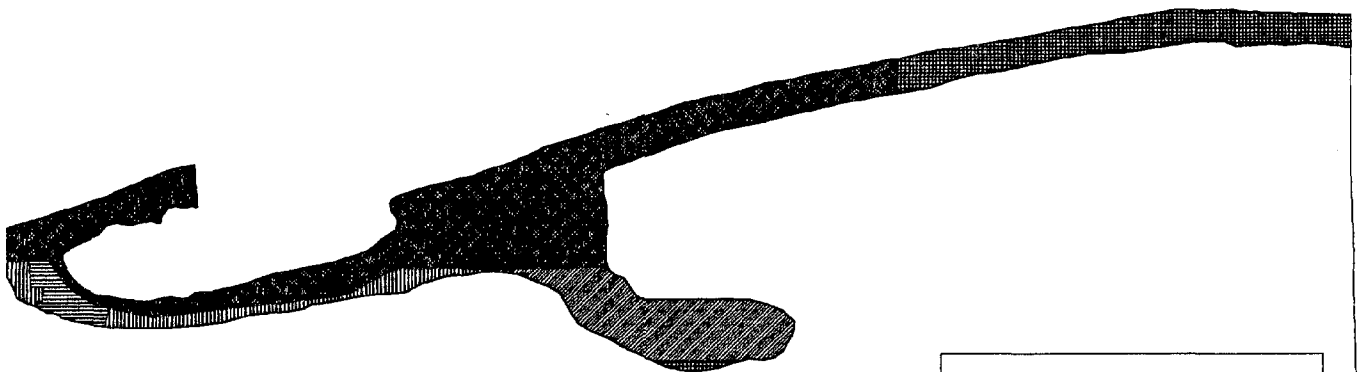
Zoning for T49N R14W



	C-1
	R-1
	LS/R
	PR
	RF
	Bay
	RF








# Alger County Coastal Zone

Zoning for T49-50N R13W



Miles

0 0.5 1

- |   |      |
|---|------|
|  | C-1  |
|  | R-1  |
|  | LS/R |
|  | PR   |
|  | RF   |
|  | Bay  |
|  | RF   |

The wetlands maps in this coastal atlas show areas only as upland or wetland, and do not indicate the classification of these wetlands. These wetland maps will alert the user to the potential presence of wetlands in a particular area; field work and site-specific investigation should also be conducted. Based on site-specific inquiries, the MIRIS wetland categories can be overlaid with the other layers of information in this atlas as needed. Examination of the National Wetlands Inventory maps will provide additional information as to the classification of these wetland areas.

From a land use and development standpoint, it is important to be aware of the presence of wetlands in an area, since there are numerous state and federal regulations which govern activity in wetlands. Any development in wetlands which involves federal funding must be preceded by an eight-step analysis in accordance with Executive Order 11990; the Michigan Department of Natural Resources also requires permits before activities can take place in wetland areas. Wetland mitigation, including development of new wetlands at another site, may be required.

**MIRIS Wetlands:** Those areas between terrestrial and aquatic systems where the water table is at, near or above the land surface for a significant part of most years. These areas permit the formation of hydric (water-containing) soils and/or support the growth of hydrophytic (water-loving) vegetation. Examples of wetlands include marshes, mudflats, wooded swamps and floating vegetation situated on the shallow margins of bays, lakes, rivers, ponds, streams and manmade impoundments. Wet meadows, perched bogs and seasonally wet or flooded basins, or potholes with no surface water outflow, are also classified as wetlands. Open water areas deeper than two meters (6.7 feet) are classified as water, as are shallower water areas with less than 30 percent vegetative cover.

There are two categories of wetlands (forested and nonforested), and five subcategories mapped by MIRIS. These categories are:

**61 Forested (wooded) wetlands:** Includes seasonally flooded bottomland hardwoods, shrub swamps, and wooded swamps including those around bogs. These areas are distinct from forest cover types such as lowland hardwoods (414) or lowland conifers (423), which are not considered to be wetlands.

**62 Nonforested wetlands:** These areas are dominated by herbaceous wetland vegetation or are nonvegetated. They include inland nontidal fresh marshes, fresh-water meadows, wet prairies and open bogs. Common vegetative species include cattail, bullrush, water lily, etc.

The forested and nonforested categories are further divided as follows:

#### **Forested**

611 Wooded wetland: Wetlands dominated by trees more than 20 feet tall. The soil surface is seasonally flooded with up to 12 inches of water, and typical tree species include ash, red maple, cedar, black spruce, etc.

612 Shrub/scrub wetland: Areas dominated by woody vegetation less than 20 feet in height, including shrubs and small or stunted trees. Examples of typical vegetation are alder, dogwood, leatherleaf, etc.

#### Nonforested

621 Aquatic bed wetland: These are areas where 30 percent or more of the vegetation cover consists of submerged, floating leaved or floating plants, such as water lilies, duck weed, pond weeds, etc.

622 Emergent wetland: Wetland areas dominated by erect, rooted herbaceous hydrophytic plants, such as cattails, sedges, wild rice, etc.

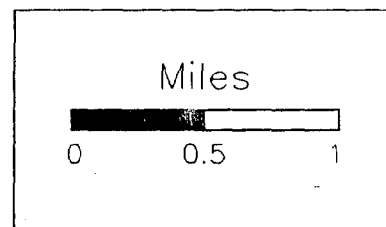
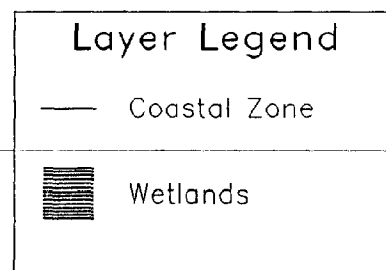
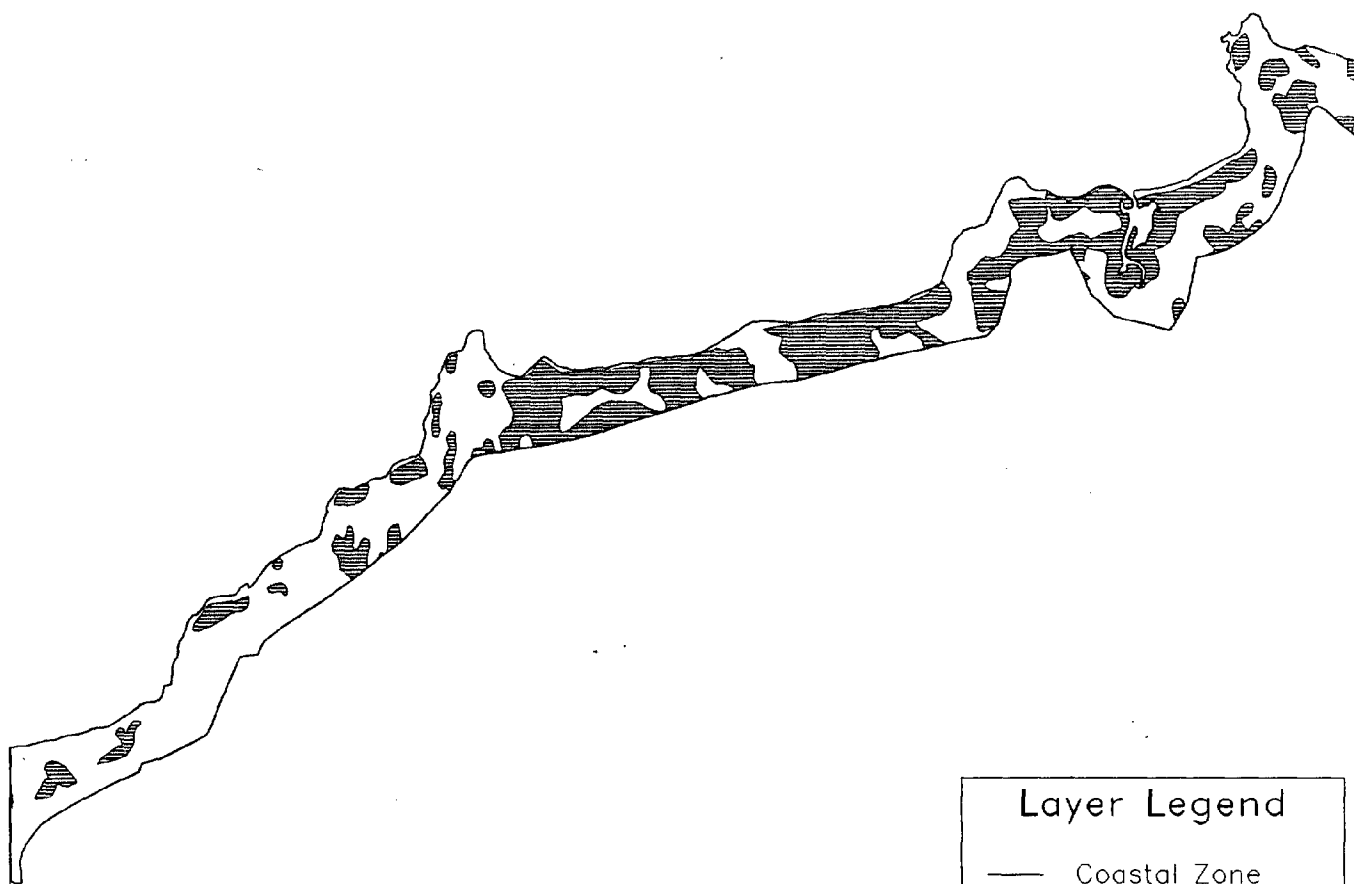
623 Flats: Level or nearly level deposits of sand, mud, or organic sediments with less than 75 percent coverage of stones, boulders or bedrock and less than 30 percent vegetative cover.

NWI Wetlands: As with the wetlands mapped by MIRIS, the National Wetlands Inventory delineates wetlands based on aerial photo interpretation. Maps, soil surveys and other documents, when available, are also reviewed during preparation of these wetland maps.

Wetlands are grouped into three major systems: Riverine, or river associated; Lacustrine, or lake associated; and Palustrine, meaning marsh. Within these groups are subsystems, classes, subclasses and modifiers, and each wetland area is assigned a code which represents the system, subsystem, class, etc.

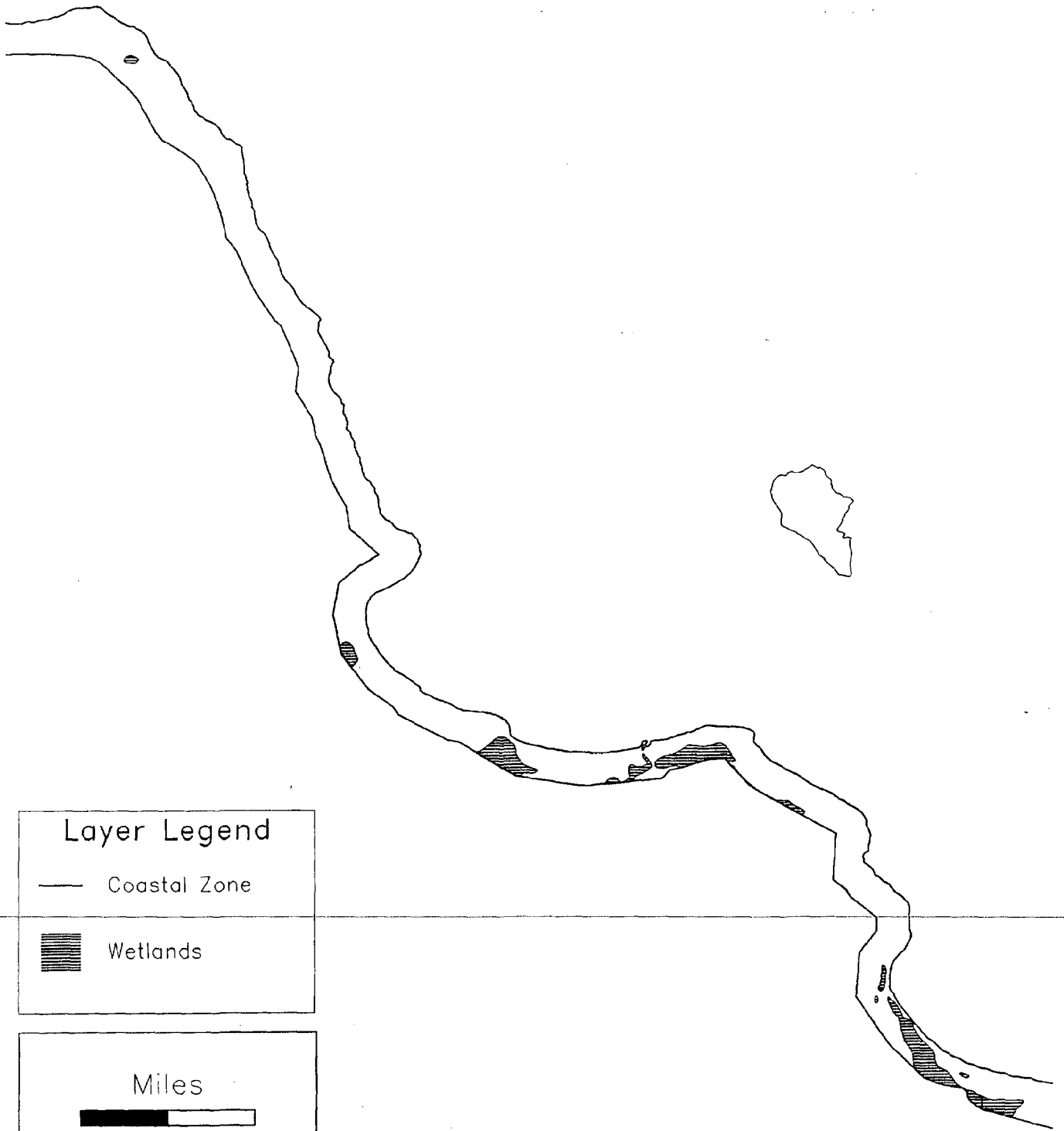
# Alger County Coastal Zone

Wetland Areas for T47-48N R22W



# Alger County Coastal Zone

Wetland Areas for T47-48N R21W



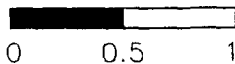
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— Coastal Zone



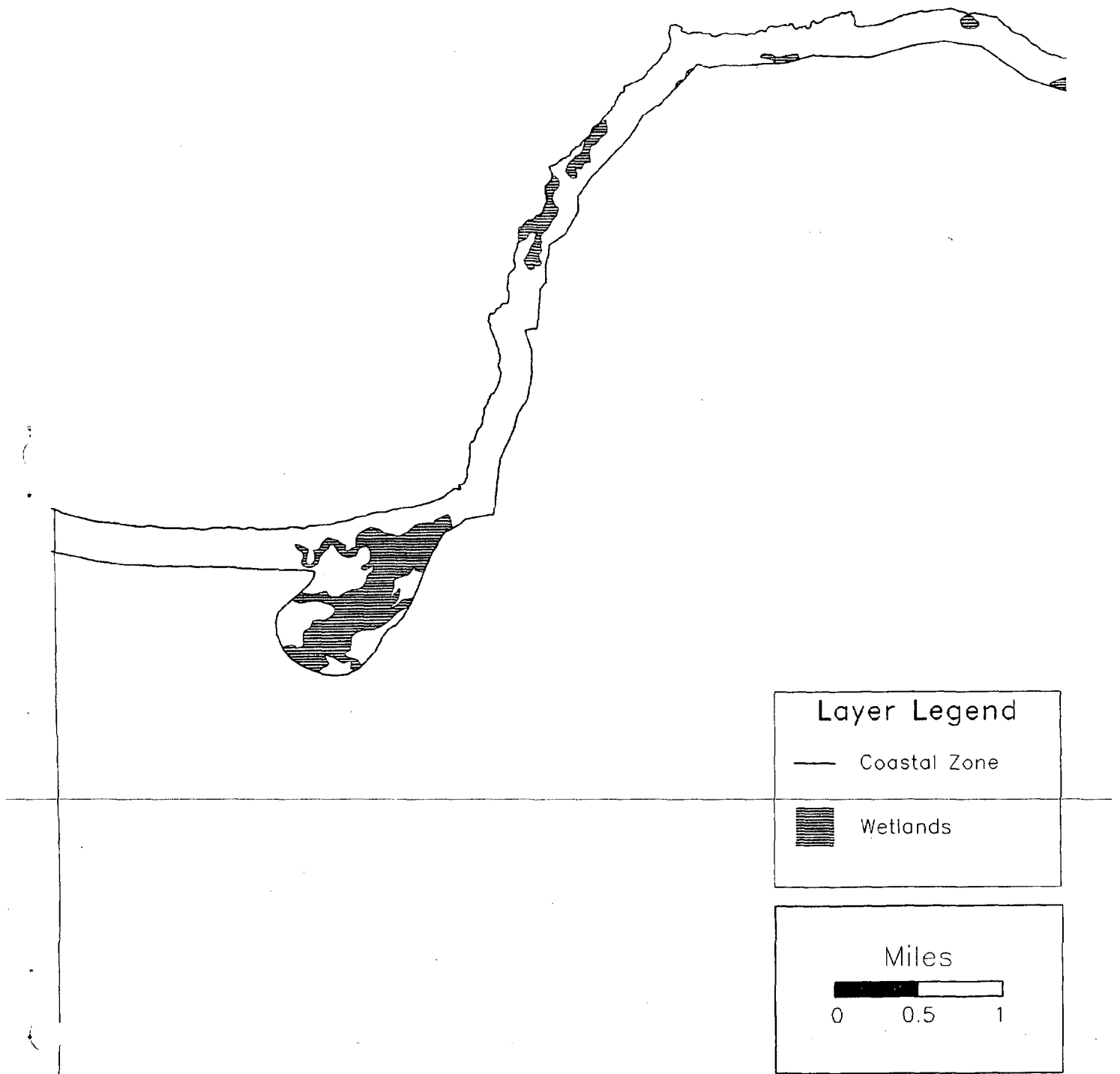
Wetlands

Miles



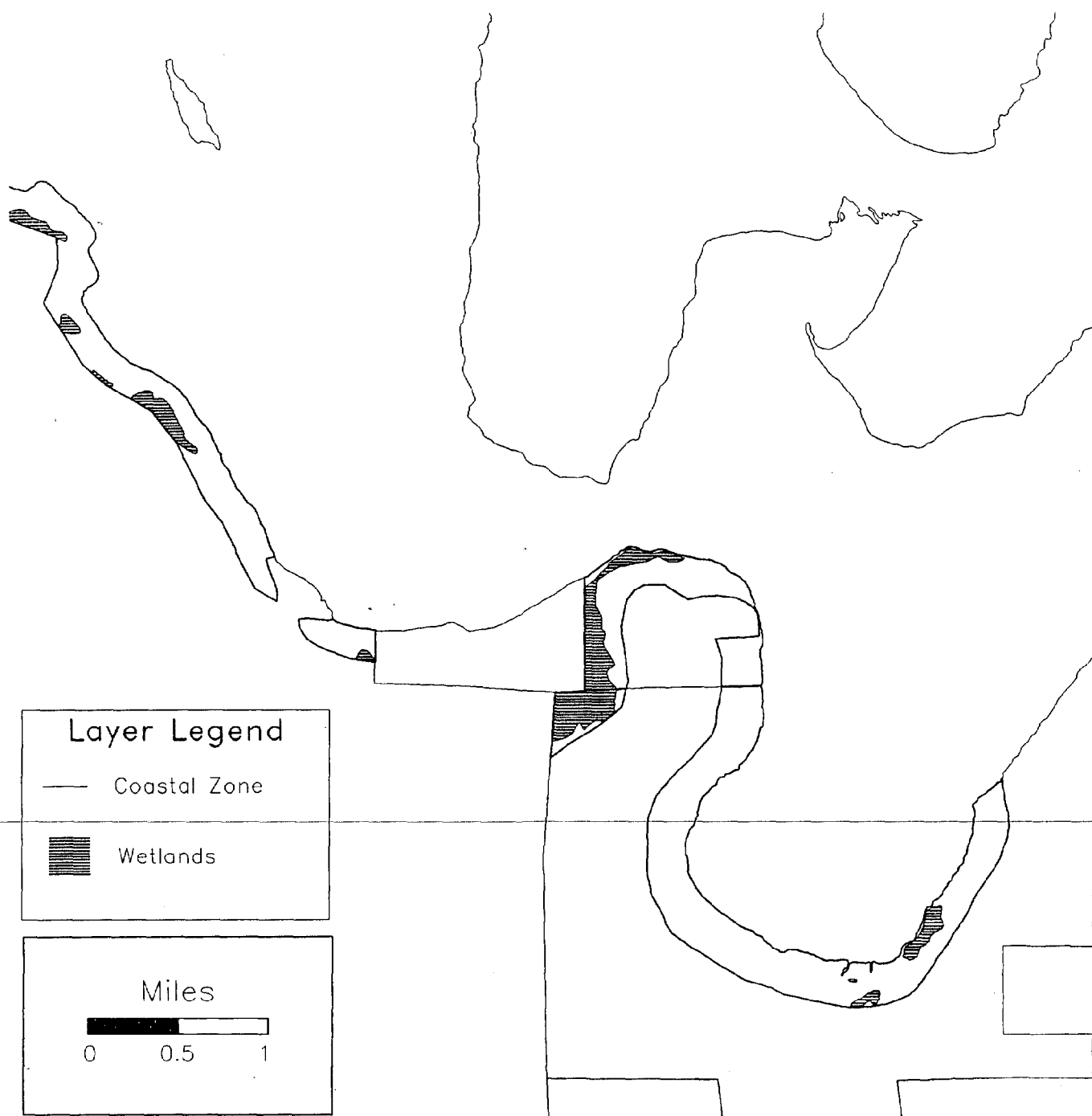
# Alger County Coastal Zone

Wetland Areas for T47N R20W



# Alger County Coastal Zone

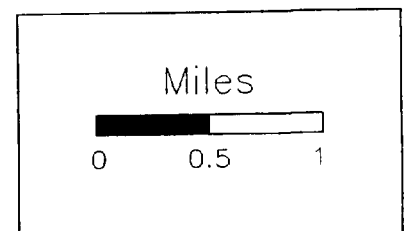
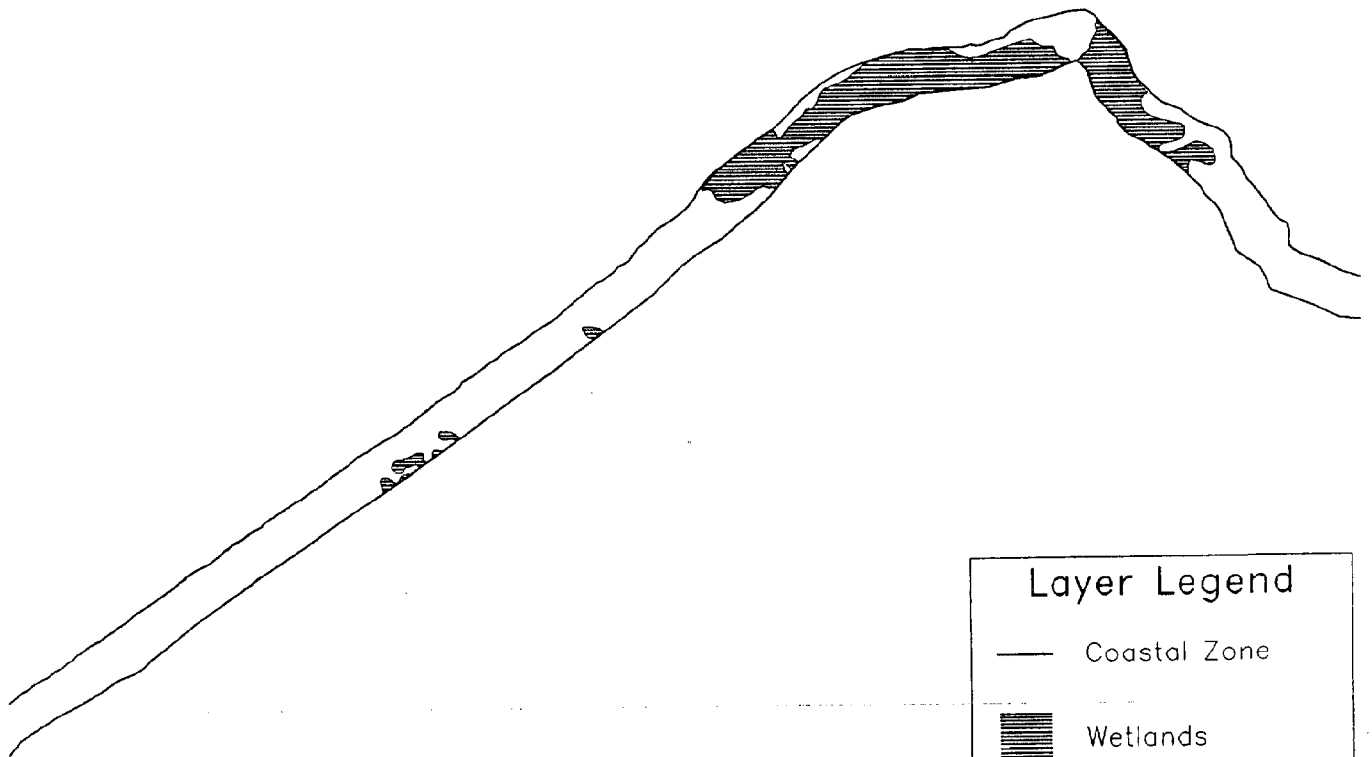
Wetland Areas for T47N R19W





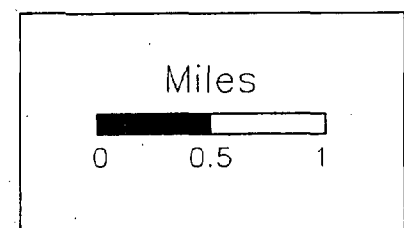
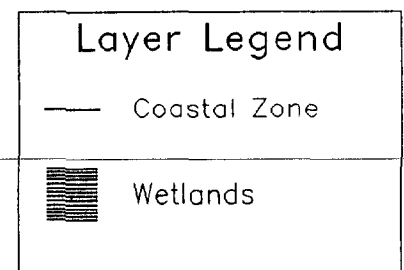
# Alger County Coastal Zone

Wetland Areas for T49N R15W



# Alger County Coastal Zone

Wetland Areas for T49-50N R13W



## **FLOODPLAINS**

Floodplains are designated by the Federal Emergency Management Agency (FEMA) in the communities which choose to participate in the National Flood Insurance Program. Because participation in the program is not required, not all local units of government contain officially-designated floodplain areas.

Both 100-year and 500-year floodplains are mapped by FEMA. The 100-year floodplain is defined as the area where, in any given year, there is a one percent (one in 100) chance of a flood occurring. It does not mean that floods will necessarily occur only once in 100 years; some areas may flood in consecutive years, while others may not flood for many years, if ever, depending on climatic conditions, human-caused disturbances, etc.

Floodplains affect land use and development in several ways. The dramatic flooding along the Mississippi River in 1993 demonstrated the potential hazards to life and property which accompany development in flood-prone areas, despite flood control measures such as dikes, dams and levees. Areas in the Upper Peninsula have also experienced property damage due to fluctuating water levels in the Great Lakes.

Development in floodplains can also result in impacts far from the location of the development. If large areas of a floodplain are covered by pavement and buildings, rain and melting snow will enter lakes and rivers via surface runoff, rather than percolating (at least partially) through the soil. This can contribute to higher water levels downstream. Pollutants can also enter lakes and rivers as a result of development in floodplains, either as a result of flooding which may release contaminants which would otherwise be contained, or through surface runoff which carries contaminants into the river or lake.

Finally, state and federal funding programs tend to discourage development in floodplains. At the federal level, Executive Order 11988 requires that an eight-step assessment process be undertaken when proposing to use federal funds in a floodplain area. This assessment requires evaluation of all practicable alternatives, and if development in a floodplain is necessary, justification and a statement of findings is required. State programs also discourage development in floodplains, and the Department of Natural Resources requires permits for activities in floodplains.

# Alger County Coastal Zone

Floodplains for T47N R20W

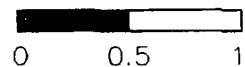


## Layer Legend

— Coastal Zone

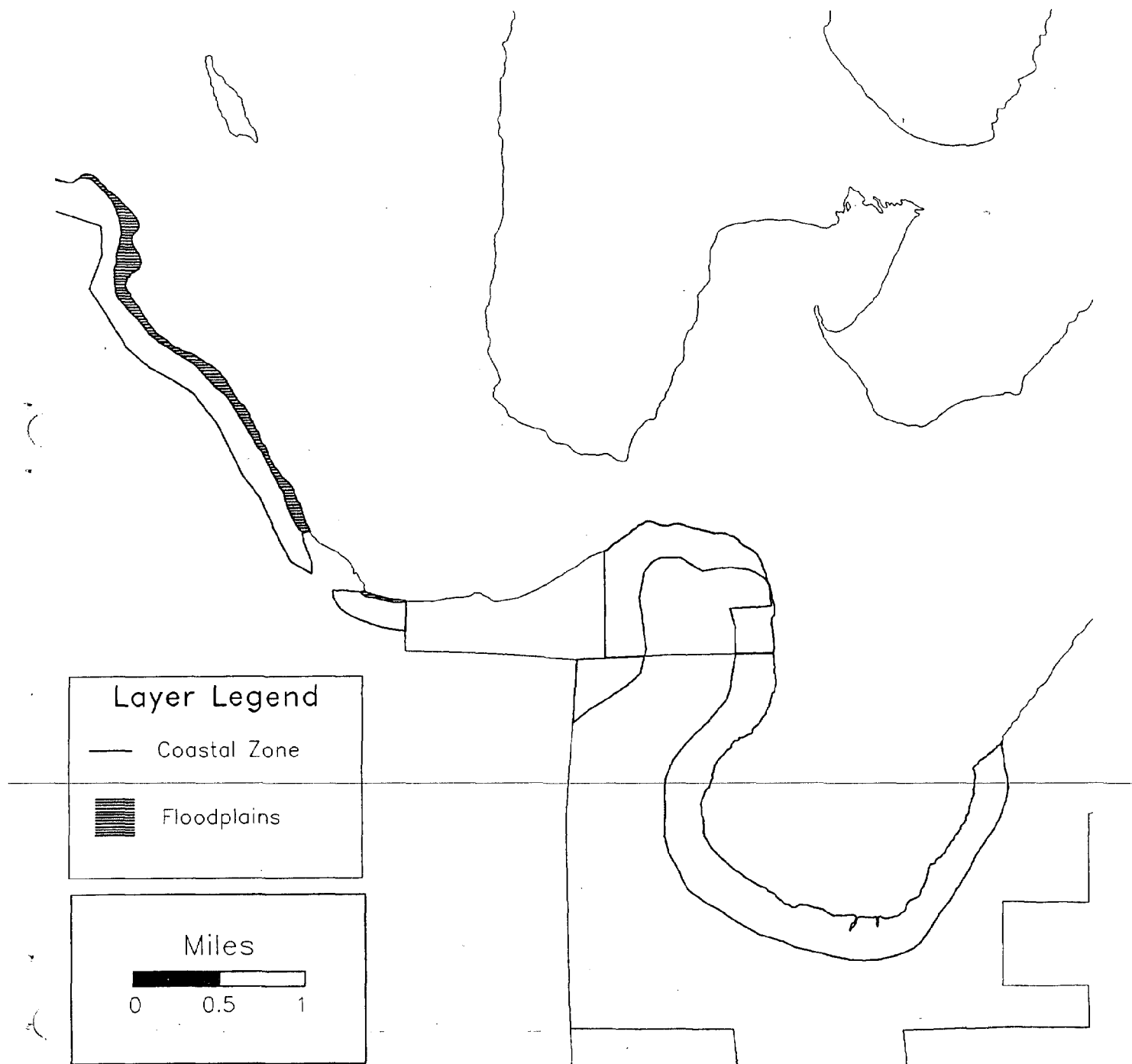
▨ Floodplains

Miles



# Alger County Coastal Zone

Floodplains for T47N R19W



**HIGH RISK EROSION AREAS**

Under the Shorelands Protection and Management Act (1970, Act 245), high risk erosion areas along Michigan's shorelines were identified, and provisions made for minimizing erosion risk. High risk erosion areas are defined as "an area of the shoreland determined . . . on the basis of studies and surveys to be subject to erosion."

In order to prevent erosion from occurring in these areas, setbacks have been developed to insure that development takes place at a sufficient distance from the shoreline to minimize the possibility that erosion will occur. Both required minimum and recommended setbacks have been developed; compliance with the minimum setback is mandatory, while compliance with the recommended setback will provide additional protection against erosion.

In Alger County, the following parcels are included in high risk erosion areas:

Onota Township

<u>Sequence Number</u>	<u>Property Number</u>	<u>Recommended Setback</u>	<u>Required Minimum Setback</u>
1	02-07-066-035-00	85 feet	70 feet

Burt Township (arranged west to east)

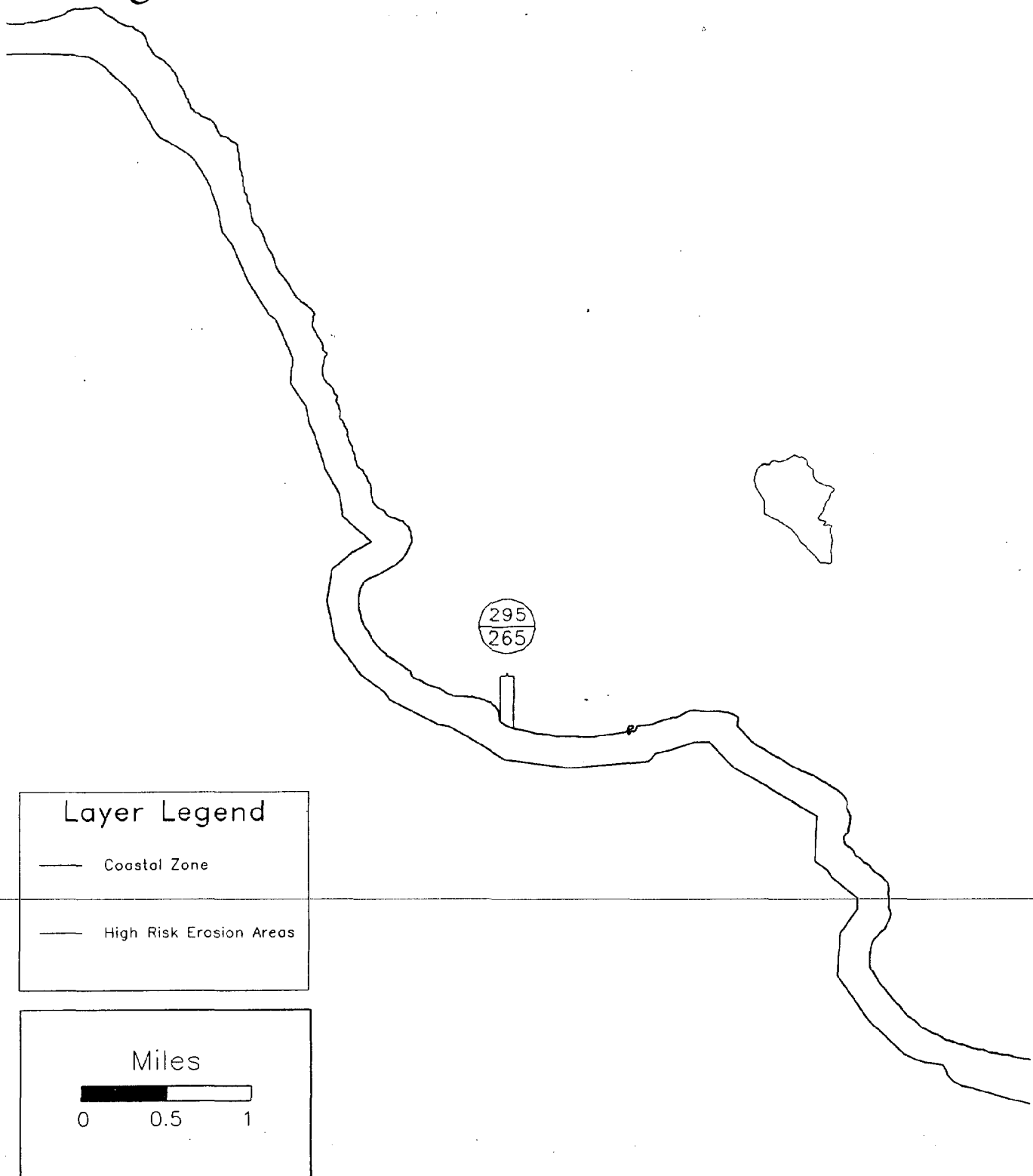
<u>Sequence Number</u>	<u>Property Number</u>	<u>Recommended Setback</u>	<u>Required Minimum Setback</u>
1	02-02-233-005-00	295 feet	265 feet
2	02-02-450-009-00	295 feet	265 feet
3	02-02-450-027-00	295 feet	265 feet
4	02-02-450-028-00	295 feet	265 feet
5	02-02-450-029-00	295 feet	265 feet
2	02-02-450-009-00	295 feet	265 feet
4	02-02-450-025-00	295 feet	265 feet
5	02-02-450-023-00	295 feet	265 feet
2	02-02-450-009-00	295 feet	265 feet
6	02-02-450-022-00	295 feet	265 feet
7	02-02-450-021-00	295 feet	265 feet
8	02-02-450-020-00	295 feet	265 feet
2	02-02-450-009-00	295 feet	265 feet
9	02-02-450-016-00	295 feet	265 feet
10	02-02-450-015-00	295 feet	265 feet
11	02-02-450-013-00	295 feet	265 feet

Burt Township (continued)

<u>Sequence Number</u>	<u>Property Number</u>	<u>Recommended Setback</u>	<u>Required Minimum Setback</u>
2	02-02-450-009-00	295 feet	265 feet
12	02-02-450-007-00	295 feet	265 feet
13	02-02-450-002-00	295 feet	265 feet
13	02-02-450-001-00	295 feet	265 feet
14	02-02-233-001-00	295 feet	265 feet
14	02-02-233-002-00	295 feet	265 feet
1	02-02-234-007-00	295 feet	265 feet
15	02-02-234-001-00	295 feet	265 feet
15	02-02-234-001-00	190 feet	175 feet
14	02-02-234-006-00	190 feet	175 feet
14	02-02-234-006-00	80 feet	65 feet
public	02-02-235-001-00	80 feet	65 feet
public	02-02-235-001-00	115 feet	85 feet

# Alger County Coastal Zone

High Risk Erosion Areas for T47-48N R21W

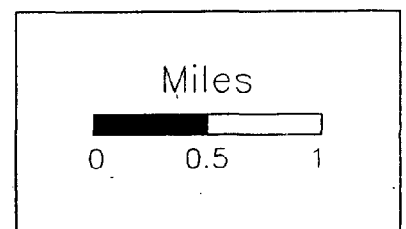
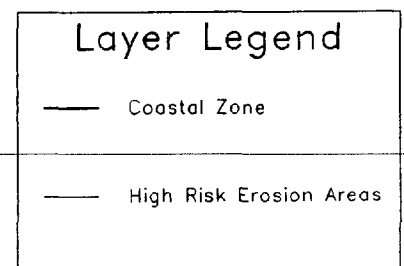
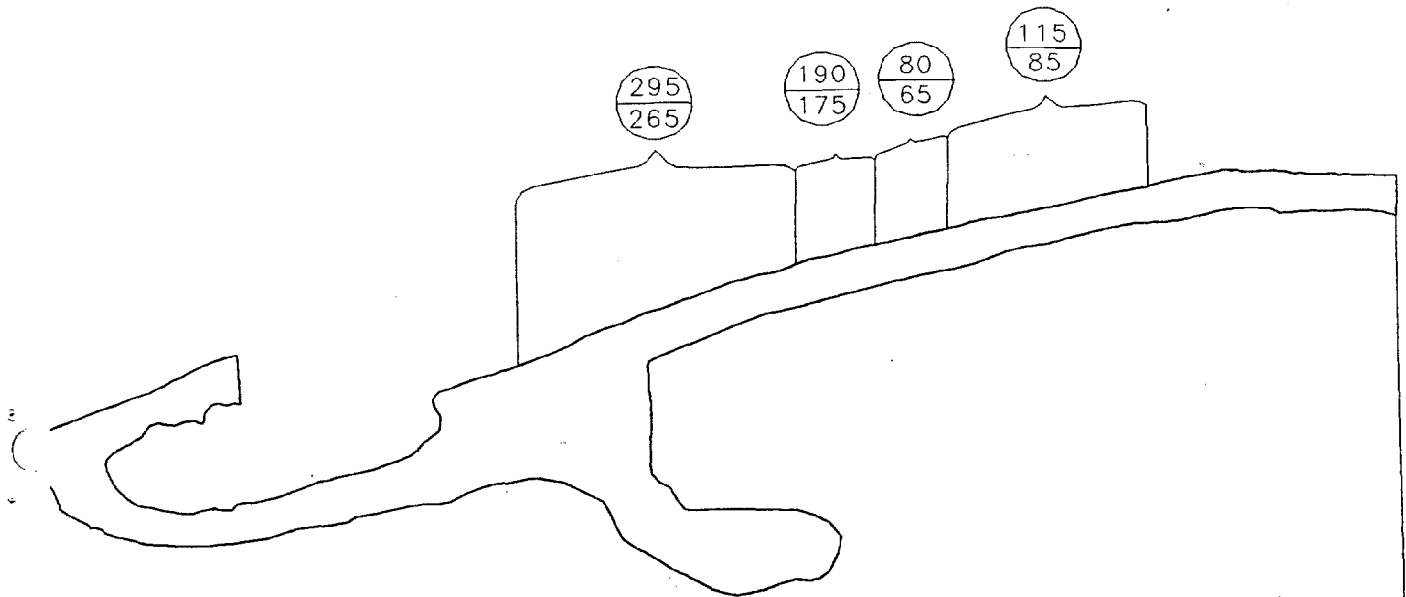




# Alger County Coastal Zone

## High Risk Erosion Areas for T49-50N R13W

○ Recommended Setback  
○ Minimum Required Setback



## **CRITICAL DUNE AREAS**

The Sand Dune Protection and Management Act (1976, Act 222) provides for the study, protection, management and reclamation of Great Lakes sand dunes. The act required the Michigan Department of Natural Resources to study and inventory Great Lakes sand dunes, and also put in place a permit mechanism for mining of sand dunes.

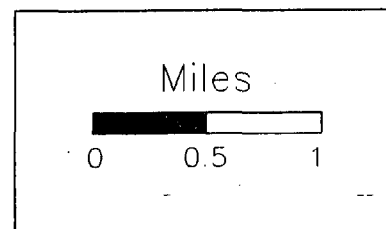
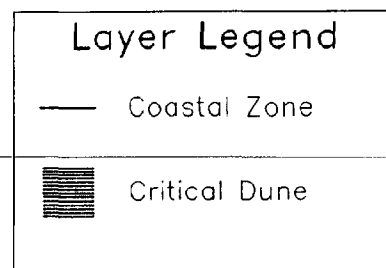
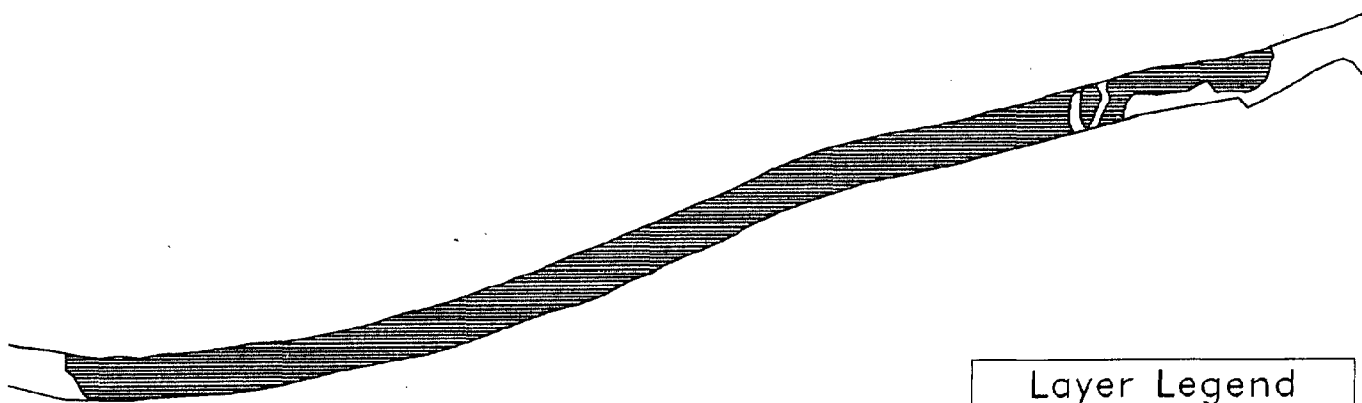
The inventory resulted in the mapping of critical dune areas throughout the state, and these areas are to be managed to preserve their unique characteristics. In the central Upper Peninsula, critical dunes are located in Alger and Schoolcraft counties.

In Alger County, two critical dune areas are mapped in Burt Township. One is the Grand Sable Dunes area, lying completely within the Pictured Rocks National Lakeshore west of Grand Marais. The second is situated east of Grand Marais, and extends into McMillan Township in Luce County. Much of this area is located State of Michigan-owned land, with the remainder on private land.

The critical dunes mapped in Alger County are all barrier dunes, as defined by Act 222 - the first landward sand dune formation along the shoreline of a Great Lake or a sand dune formation designated by the DNR.

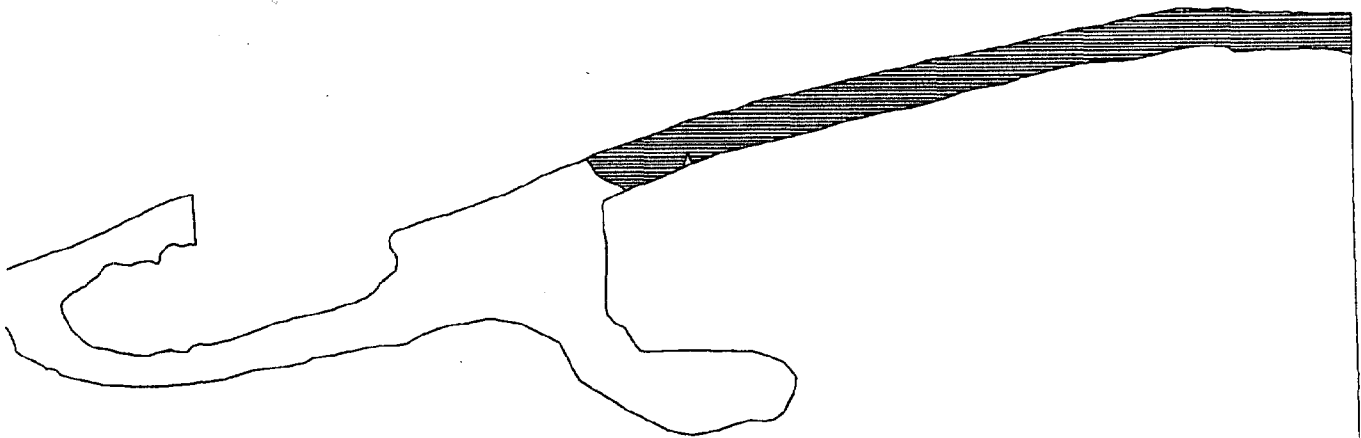
# Alger County Coastal Zone

Critical Dune Areas for T49N R14W



# Alger County Coastal Zone

Critical Dune Areas for T49-50N R13W



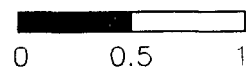
## Layer Legend

— Coastal Zone



Critical Dune

Miles



**ACT 307 SITES**

The Michigan Department of Natural Resources is required by the Michigan Environmental Response Act (1982 PA 307) to identify, evaluate and rank all sites of environmental contamination in the state. Sites are evaluated based on a site assessment model which examines the risk a site poses to public health and the environment.

All sites are categorized by the degree to which cleanup activities have been undertaken, in addition to the site assessment model (SAM) score. The following list of sites of environmental contamination in Alger County is based on the Proposed Act 307 List of Sites of Environmental Contamination for Fiscal Year 1996, issued in November, 1994. The table below shows the status of the Act 307 sites within the Coastal Zone in Alger County.

**Sites of Environmental Contamination, Alger County**

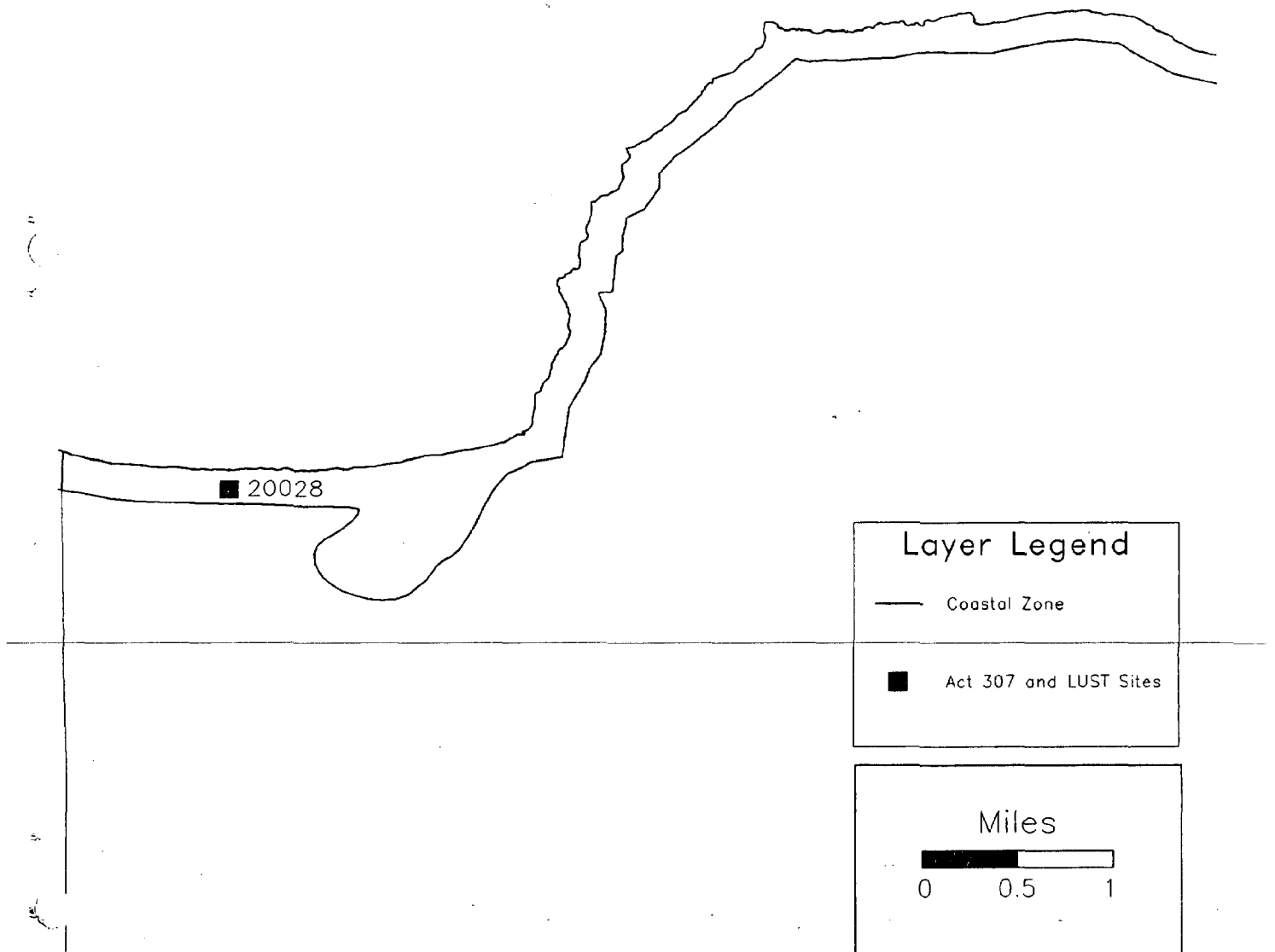
Site Number	Site Name	SAM Score	Location	Contaminant	Status
020016	Superior Shell	NA	NE¼,NW¼, S13, T46N, R19W; M-28	Petroleum Products	LUST Category 2
020026	Joseph Brey UST Removal	NA	SE¼,NE¼, S34, T47N, R19W	Petroleum Products	LUST Category 1
020028	Au Train Grocery & Motel	NA	NW¼,NW¼, S32, T47N, R20W	Petroleum Products	LUST Category 1
020029	Bob's IGA	NA	NW¼,SW¼, S3, T46N, R19W; 127 W. Superior St.	Petroleum Products	LUST Category 2
020032	City of Munising DPW Garage	NA	NW¼,SW¼, S2, T46N, R19W; 133 W. Munising	Petroleum Products	LUST Category 2
020037	Alger Co. Road Comm. Garage	12	NE¼,SE¼, S1, T49N, R13W	Salt	Act 307 Category 1

NOTES TO TABLE:

Site Name:	The site name is assigned for identification purposes only and is not necessarily a party responsible for contamination.																		
SAM Score:	A numerical risk assessment model, known as the Site Assessment Model, is used to rank all Act 307 sites, except leaking underground storage tanks. The SAM has a scale of 0 to 48 points, with 48 points representing the highest level of contamination. Therefore, a site with a SAM score of 25 would present more risk to the environment, health, safety or welfare than a site with a score of 20.																		
Status:	Act 307 sites are placed in one of seven categories, depending on the action, if any, which has been taken towards cleanup. These categories are: <table><tr><td>Category 1 -</td><td>Inactive, No Actions Taken</td></tr><tr><td>Category 2 -</td><td>Cleanup Actions Taken or in Progress - Evaluation/Interim Response - Fund</td></tr><tr><td>Category 3 -</td><td>Cleanup Actions Taken or in Progress - Evaluation/Interim Response - Potentially Responsible Party/Other</td></tr><tr><td>Category 4 -</td><td>Cleanup Actions Taken or in Progress - Final Cleanup - Fund</td></tr><tr><td>Category 5 -</td><td>Cleanup Actions Taken or in Progress - Final Cleanup - Potentially Responsible Party/Other</td></tr><tr><td>Category 6 -</td><td>Cleanup Complete/Long-Term Maintenance - Operation &amp; Maintenance - Fund</td></tr><tr><td>Category 7 -</td><td>Cleanup Complete/Long-Term Maintenance - Operation &amp; Maintenance - Potentially Responsible Party/Other</td></tr><tr><td>LUST Category 1 -</td><td>Leaking Underground Storage Tank Sites-Inactive</td></tr><tr><td>LUST Category 2 -</td><td>Leaking Underground Storage Tank Sites-Cleanup Actions Taken or in Progress</td></tr></table>	Category 1 -	Inactive, No Actions Taken	Category 2 -	Cleanup Actions Taken or in Progress - Evaluation/Interim Response - Fund	Category 3 -	Cleanup Actions Taken or in Progress - Evaluation/Interim Response - Potentially Responsible Party/Other	Category 4 -	Cleanup Actions Taken or in Progress - Final Cleanup - Fund	Category 5 -	Cleanup Actions Taken or in Progress - Final Cleanup - Potentially Responsible Party/Other	Category 6 -	Cleanup Complete/Long-Term Maintenance - Operation & Maintenance - Fund	Category 7 -	Cleanup Complete/Long-Term Maintenance - Operation & Maintenance - Potentially Responsible Party/Other	LUST Category 1 -	Leaking Underground Storage Tank Sites-Inactive	LUST Category 2 -	Leaking Underground Storage Tank Sites-Cleanup Actions Taken or in Progress
Category 1 -	Inactive, No Actions Taken																		
Category 2 -	Cleanup Actions Taken or in Progress - Evaluation/Interim Response - Fund																		
Category 3 -	Cleanup Actions Taken or in Progress - Evaluation/Interim Response - Potentially Responsible Party/Other																		
Category 4 -	Cleanup Actions Taken or in Progress - Final Cleanup - Fund																		
Category 5 -	Cleanup Actions Taken or in Progress - Final Cleanup - Potentially Responsible Party/Other																		
Category 6 -	Cleanup Complete/Long-Term Maintenance - Operation & Maintenance - Fund																		
Category 7 -	Cleanup Complete/Long-Term Maintenance - Operation & Maintenance - Potentially Responsible Party/Other																		
LUST Category 1 -	Leaking Underground Storage Tank Sites-Inactive																		
LUST Category 2 -	Leaking Underground Storage Tank Sites-Cleanup Actions Taken or in Progress																		

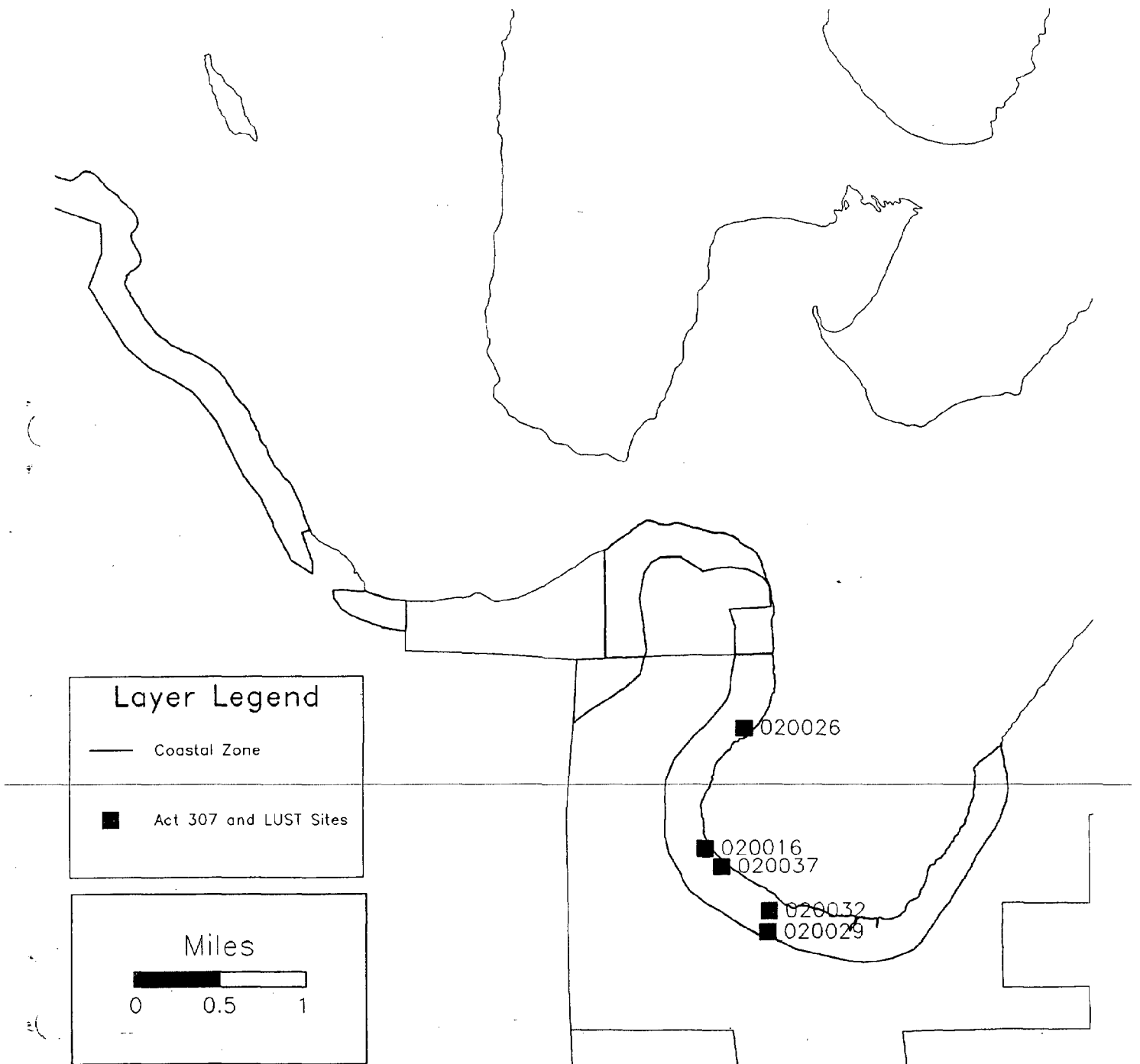
# Alger County Coastal Zone

ACT 307 and LUST Sites for T47N R20W



# Alger County Coastal Zone

ACT 307 and LUST Sites for T47N R19W





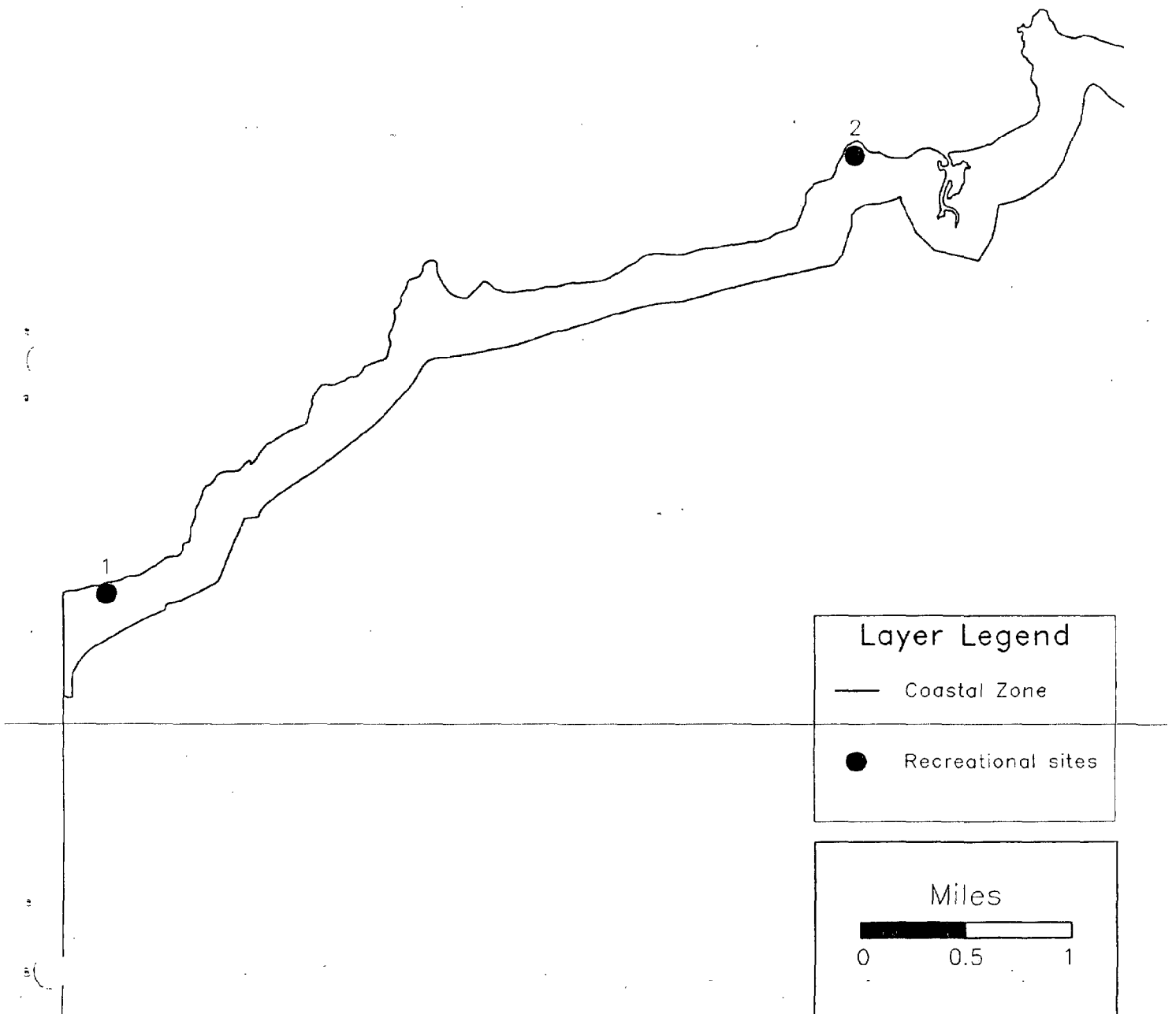
## **RECREATION AND PUBLIC ACCESS SITES**

The recreation sites and public access sites shown in this atlas are owned and maintained by a variety of public entities, including the Michigan Department of Natural Resources, the U.S. Forest Service, the National Park Service and local units of government. The following table summarizes the sites and facilities in Alger County.

Map No.	Site Name	Ownership	Facilities
1	Sand River Beach Area		Beach access along road turnout
2	Escanaba State Forest-Laughing Fish Point	MI Dept. of Natural Resources	Primitive campground, boat launch
3	Deer Lake Roadside Park	MI Dept. of Transportation	Picnic/rest area, toilets, swimming
4	Au Train Ballfield	Au Train Township	Lighted softball field, toilets, 5 ac.
5	Au Train Bay Roadside Park	Hiawatha National Forest	Picnic area, swimming, 10 ac.
6	Bay Furnace Campground	Hiawatha National Forest	Campground, picnic area, interpretive trail and historic site, 20 ac.
7	Mercier's Campground	Private	Campground w/showers
8	Woodland Park	Burt Township	Campground, picnic area, playground, tennis courts, softball field, restrooms and showers
9	Coast Guard Point Park	Burt Township	Grand Marais Historical Museum, picnic area
10	Bicycle Path and Walkway	Burt Township	Bike and walking path providing access to recreational areas and downtown Grand Marais
11	Grand Marais Marina	Burt Township	Boat launch, electric and water hookups for boats, restrooms
12	Bay Shore Park	Burt Township	Picnic area, swim beach, bandstand/pavilion, playground, restrooms/bathhouse
13	Smith Brothers Beach Access	Burt Township	250 feet beach frontage
14	Carpenter Creek Beach Access	Burt Township	100 feet beach frontage
15	Edward Street Beach Access	Burt Township	350 feet beach frontage
16	Munising Tourist Park	City of Munising	Campground, picnic area, swim beach, playground, pavilion
17	Munising City Marina	City of Munising	Docking facilities w/gas, water, electricity and pumpouts
18	Bayshore Park	City of Munising	Picnic area, pavilion, restrooms
19	Washington St. Tennis Courts	City of Munising	Two unlighted tennis courts

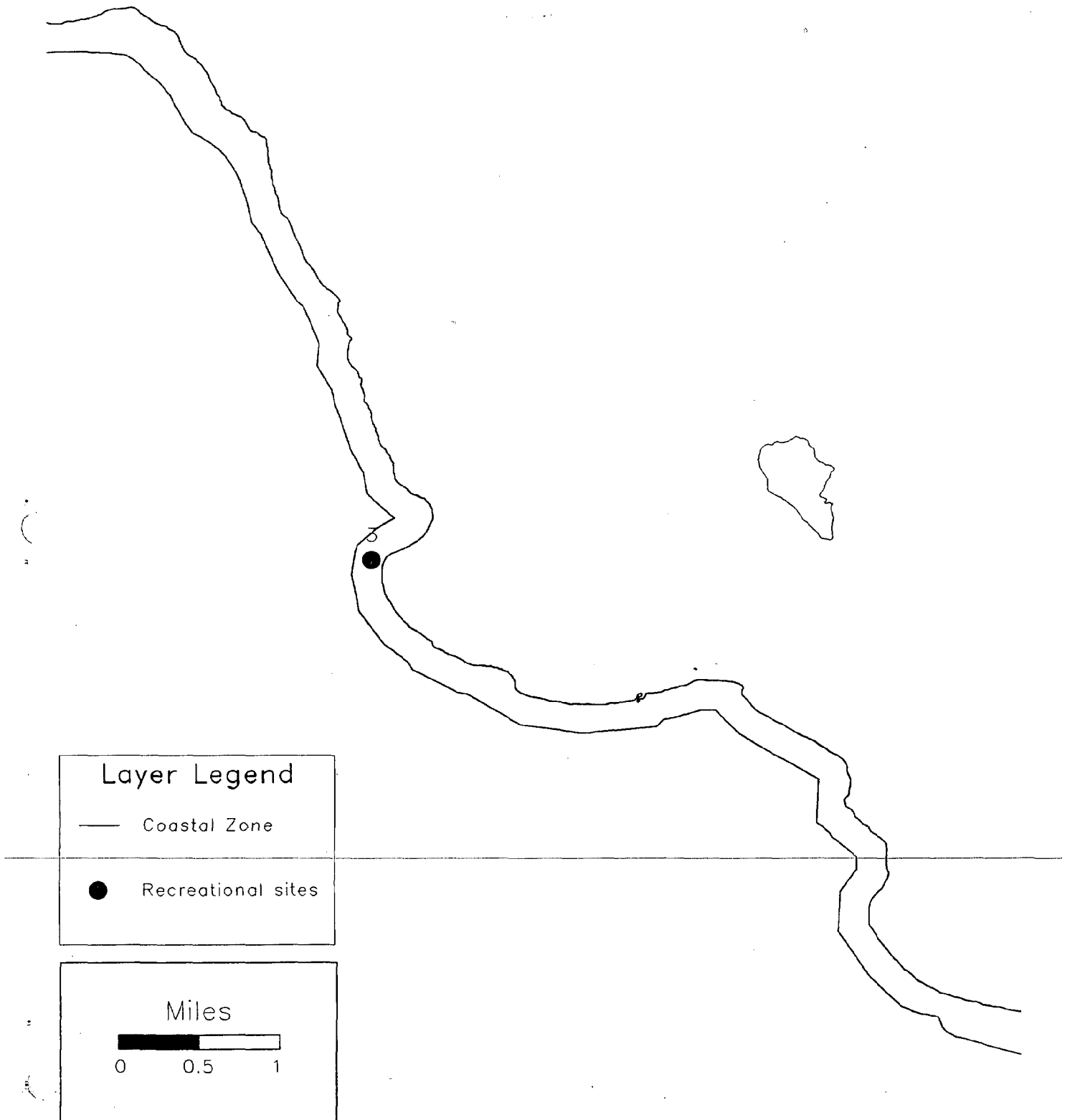
# Alger County Coastal Zone

Recreation Sites for T47-48N R22W



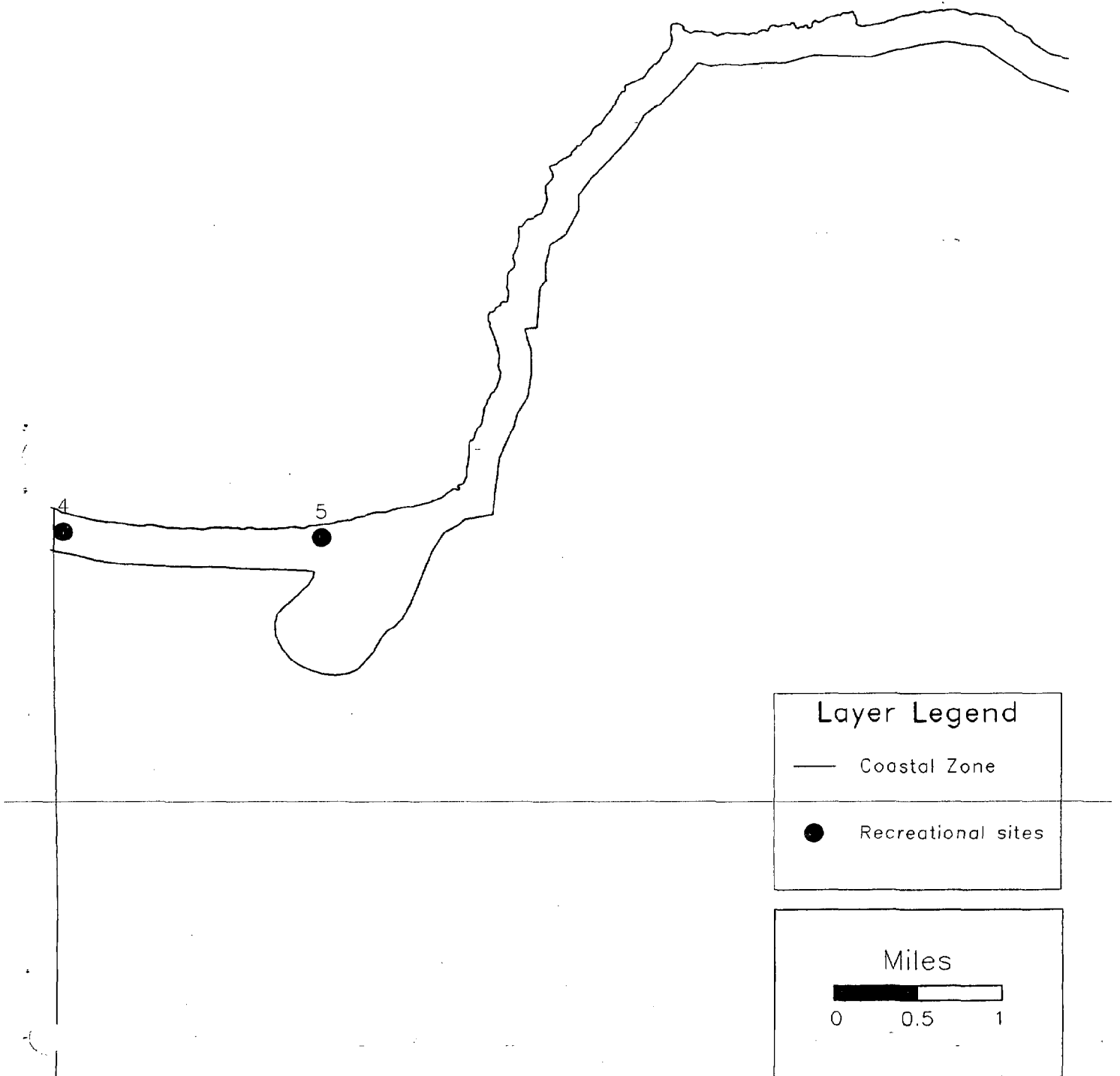
# Alger County Coastal Zone

## Recreation Sites for T47-48N R21W



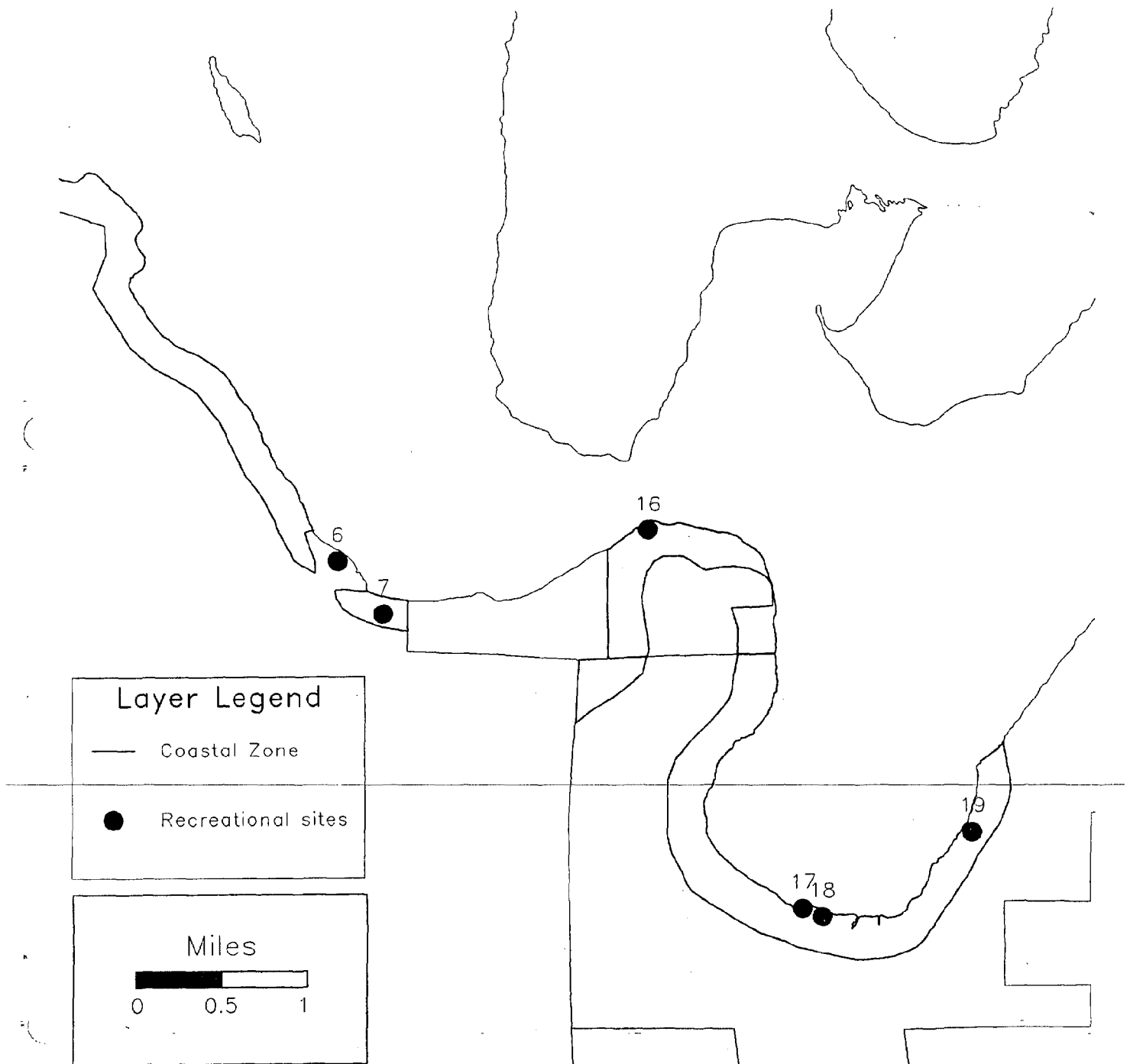
# Alger County Coastal Zone

## Recreation Sites for T47N R20W



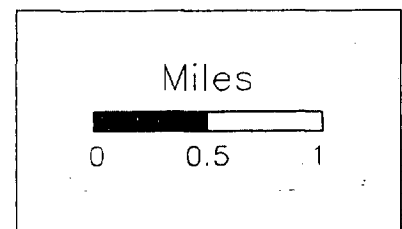
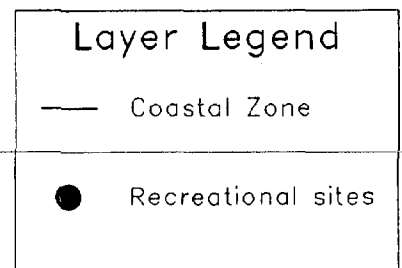
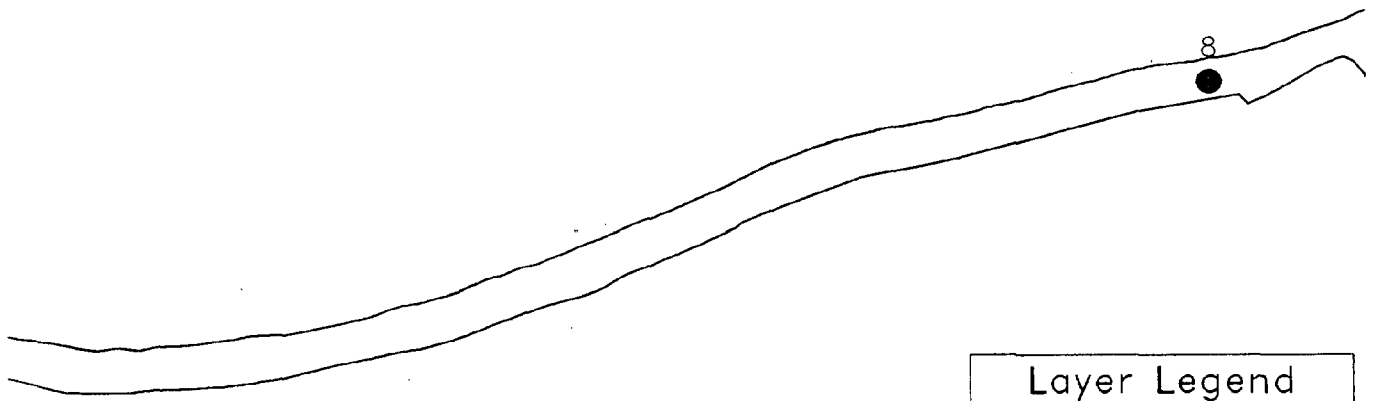
# Alger County Coastal Zone

Recreation Sites for T47N R19W



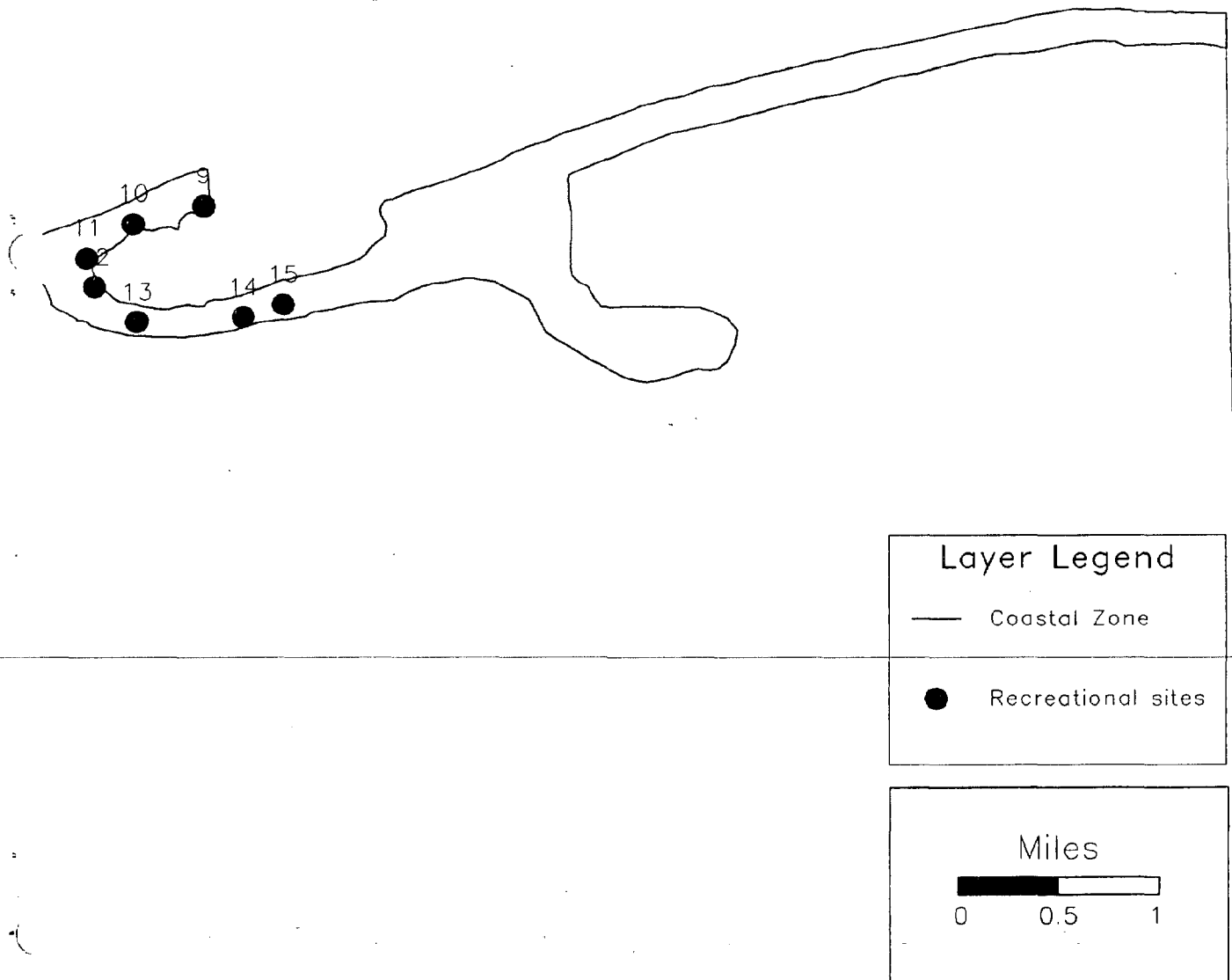
# Alger County Coastal Zone

Recreation Sites for T49N R14W



# Alger County Coastal Zone

Recreation Sites for T49-50N R13W





## **HISTORICAL SITES**

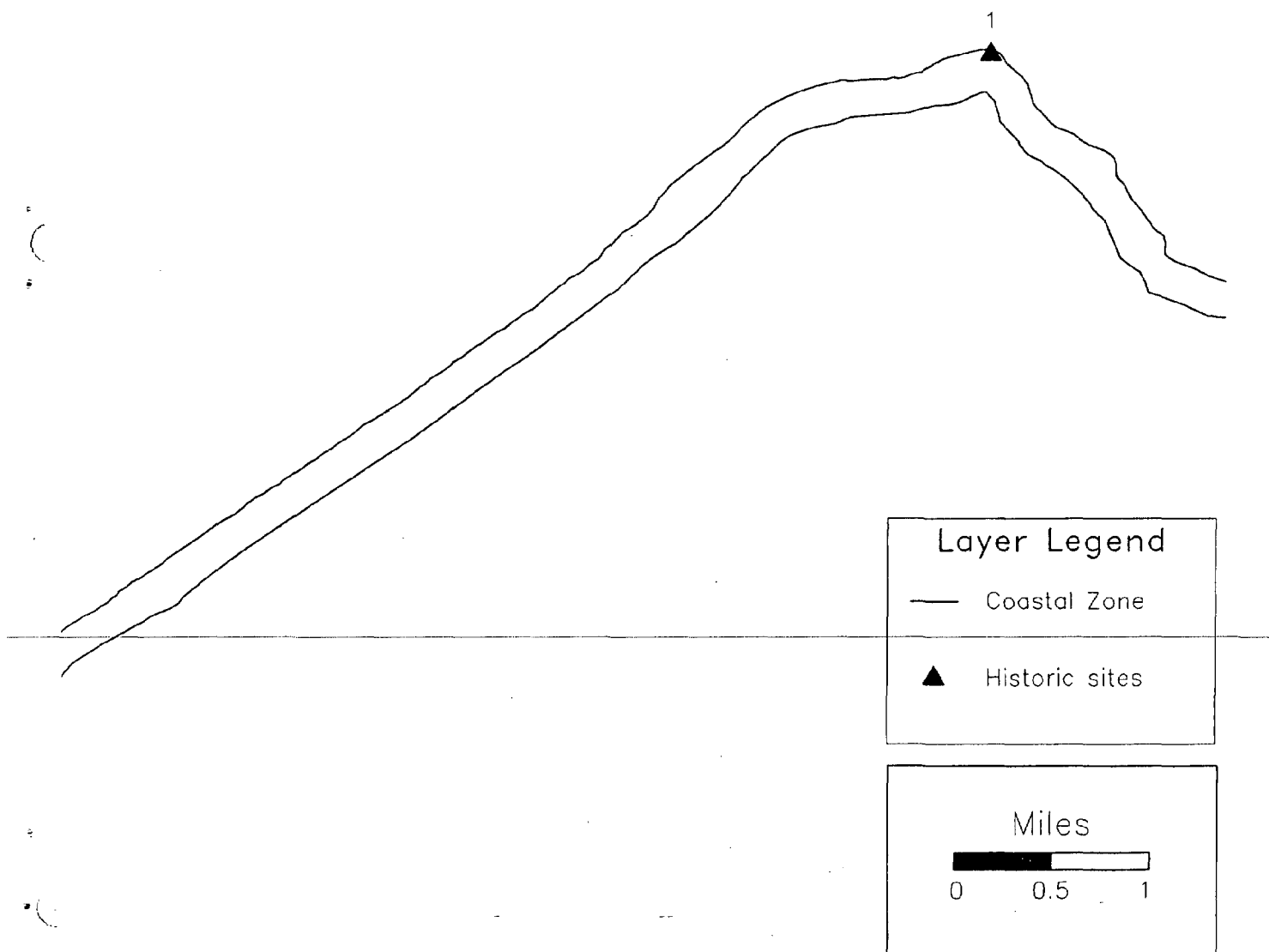
Two sites of historical interest are located in the coastal zone in Alger County. Both sites are listed on the Michigan State Register of Historic Sites.

1. **Au Sable Light Station Complex:** Historic lighthouse and outbuildings, located within the Pictured Rocks National Lakeshore and owned and maintained by the National Park Service. Lighthouse is accessible by foot trail, and is open to visitors when staffed by Park Service personnel or volunteers.
2. **Bay Shore Park, Grand Marais:** A historical marker is located in Bay Shore Park. The U.S. Post Office, just across Grand Marais Avenue from the park, is a unique, 5-sided building constructed in the early 1900s; it is also listed on the State Register. There are several other historical structures in the area which are not listed.

Any activities involving federal funding require review by the Michigan State Historic Preservation Office. SHPO will require documentation, including photographs, showing that sites and/or structures are not historic, or that provisions have been made to protect the historic nature of sites and structures. Any structures over 50 years old are considered potentially historic; SHPO review is not limited to officially-designated historic sites. Archaeological studies may be required in certain cases.

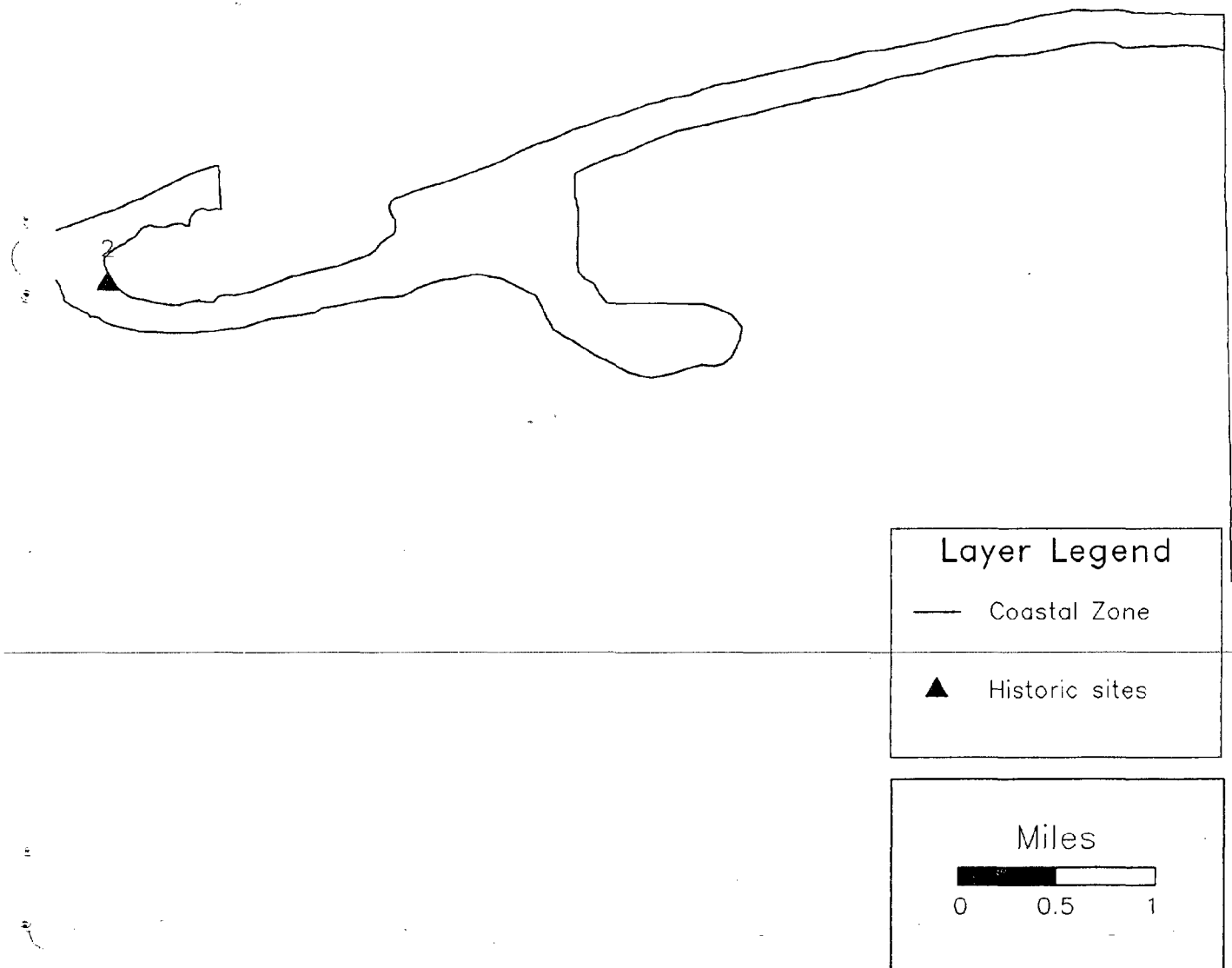
# Alger County Coastal Zone

Historic Sites for T49R R15W



# Alger County Coastal Zone

Historic Sites for T49-50N R13W



## **LAND OWNERSHIP**

The major land ownership categories of federal, state and local government ownership are mapped in this atlas. These areas are maintained for a variety of types of public use, including recreation, timber production, research, etc. In addition to publicly-owned lands, so-called "CFR land," or property classified as Commercial Forest Reserve under the Commercial Forest Act, is mapped. CFR lands are open to the public for hunting, fishing and other recreational pursuits.

Federal landowners in Alger County are the National Park Service, a U.S. Department of Interior agency which administers the Pictured Rocks National Lakeshore, and the Forest Service, which is a part of the U.S. Department of Agriculture and administers the Hiawatha National Forest. Park Service offices are located at Sand Point (Park Headquarters), Munising (Visitor Information), Munising Falls (Visitor Center) and Grand Marais (Ranger Station). The Forest Service maintains a ranger district office in Munising, and the Forest Supervisor's Office is located in Escanaba.

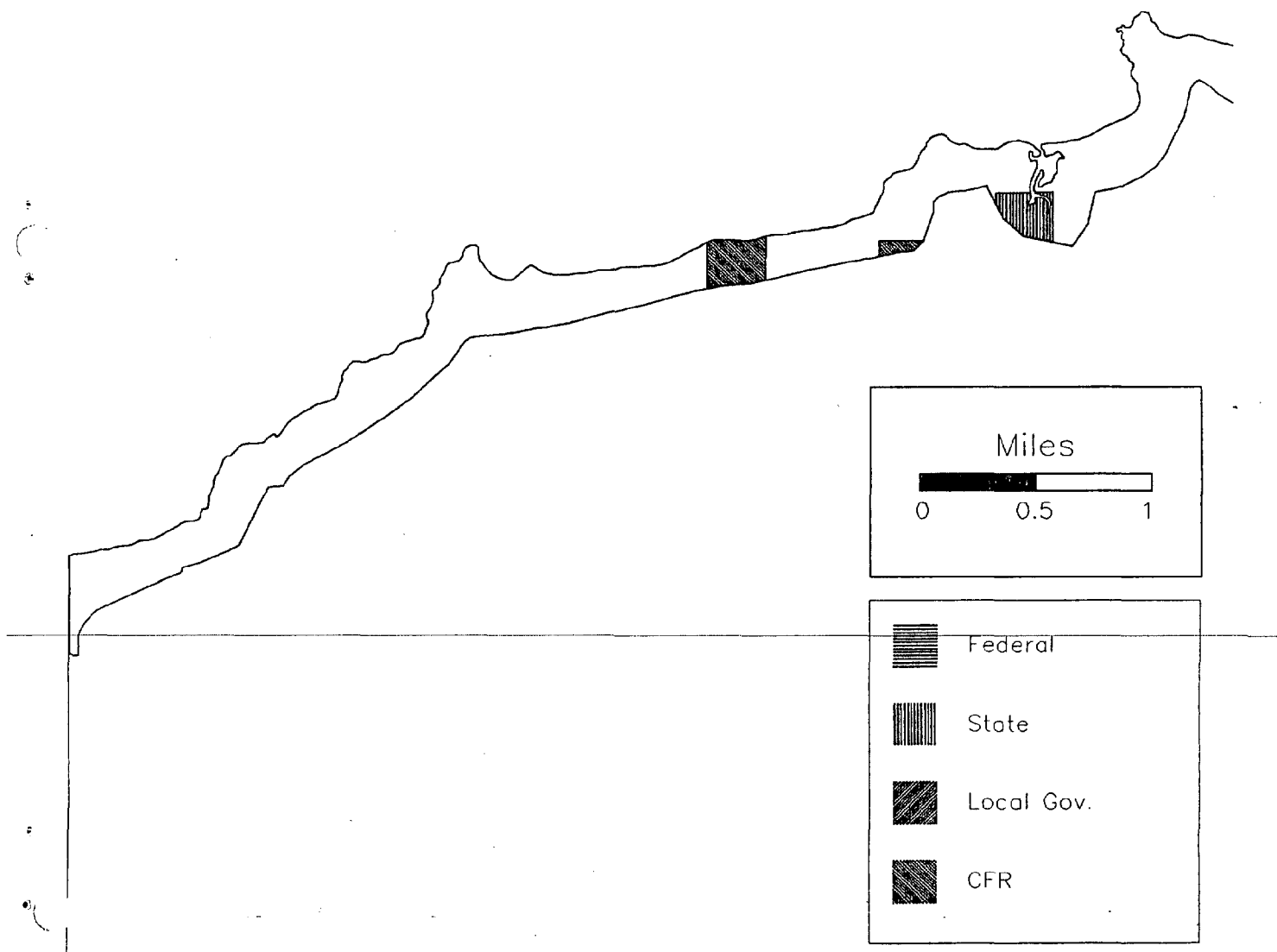
Forest Service and Park Service lands are managed according to long-range management plans developed under the federal laws and regulations which govern these agencies. The management plan for the Pictured Rocks National Lakeshore also includes guidelines for management in a "buffer zone" of lands which are not owned by the Park Service, but are located within the boundary of the National Lakeshore. Lands owned by these agencies are open to public use, although some areas may be restricted to certain uses, such as recreation, non-motorized access, etc.

State lands are primarily owned by the Michigan Department of Natural Resources, and include state forest lands, parks, etc. A DNR office is located in Shingleton; other DNR offices in the area are located in Newberry, Escanaba and Marquette.

Local units of government also own land for recreation areas, industrial parks, public facilities, etc.

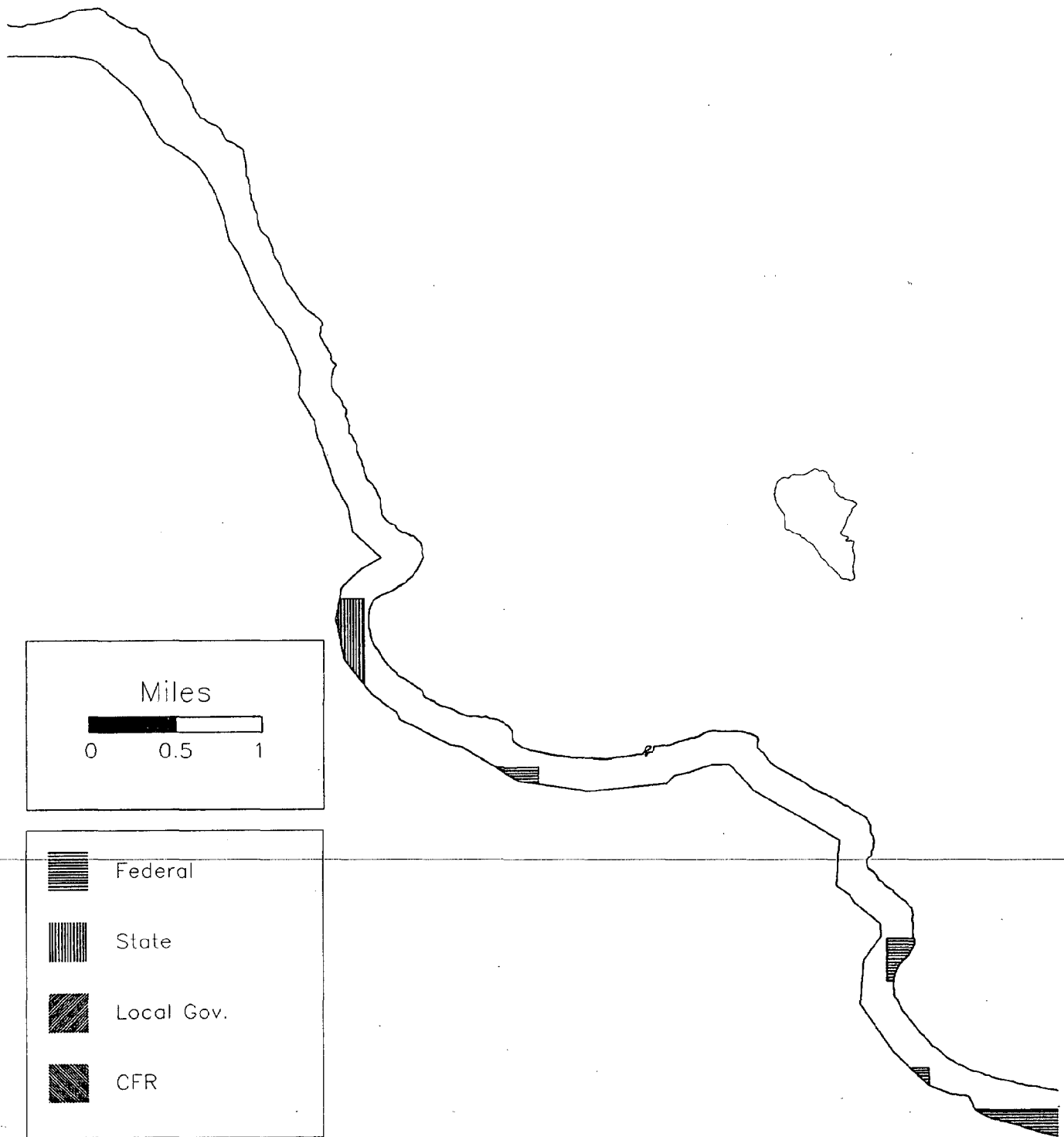
# Alger County Coastal Zone

Land Ownership for T47-28N R22W



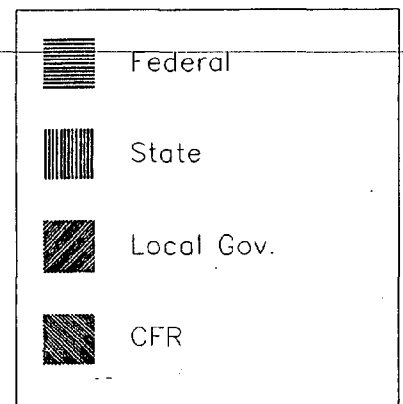
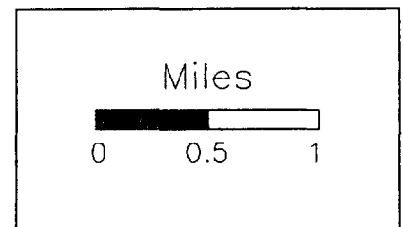
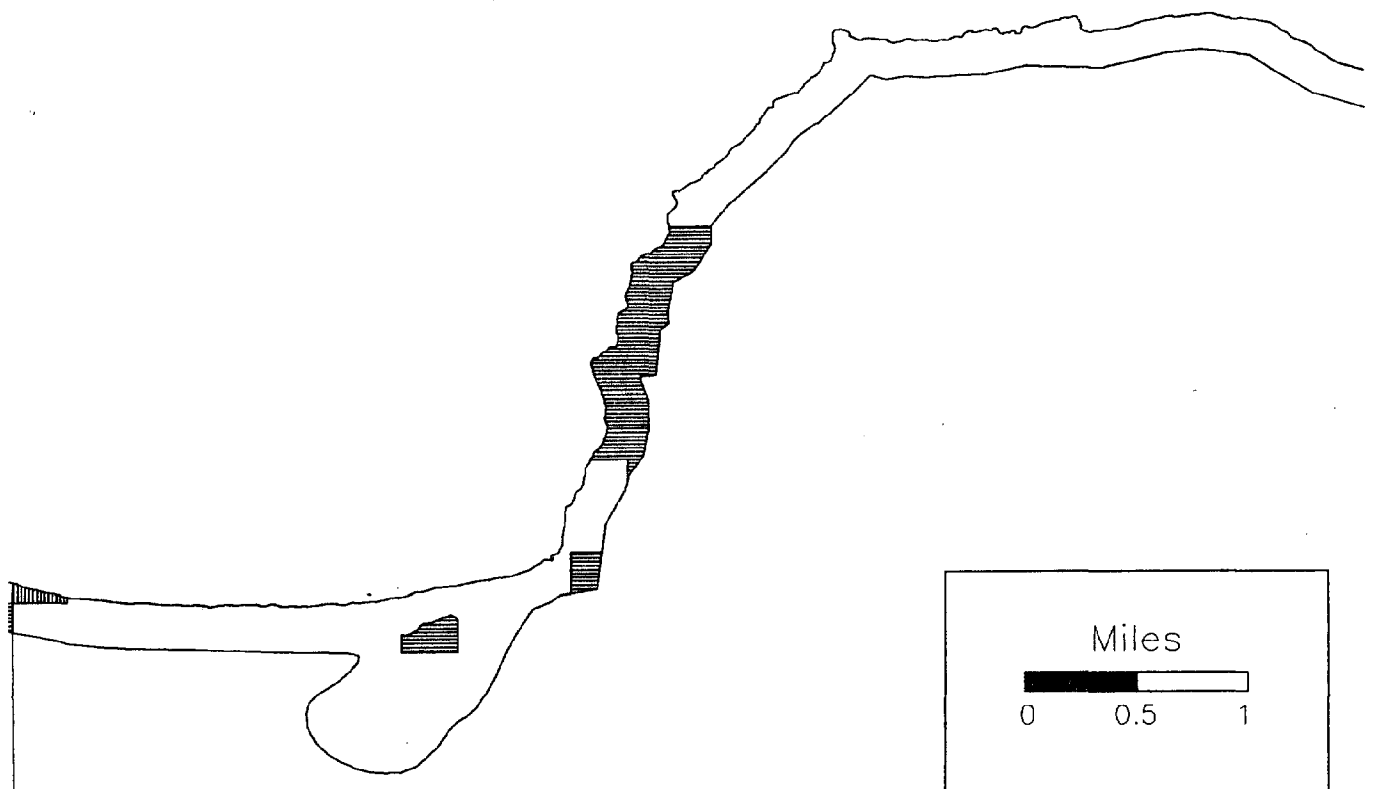
# Alger County Coastal Zone

Land Ownership for T47-28N R21W



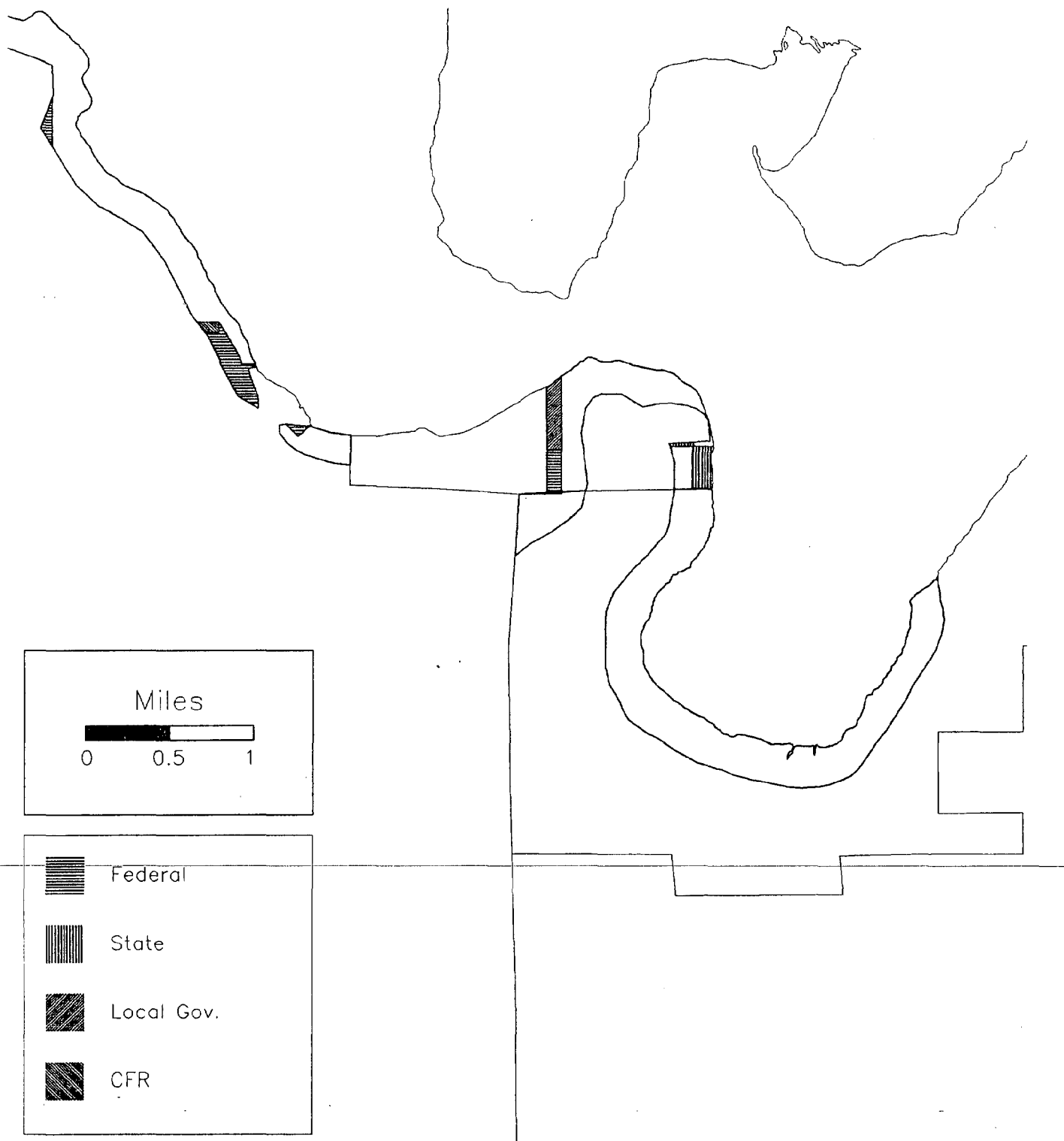
# Alger County Coastal Zone

Land Ownership for T47N R20W



# Alger County Coastal Zone

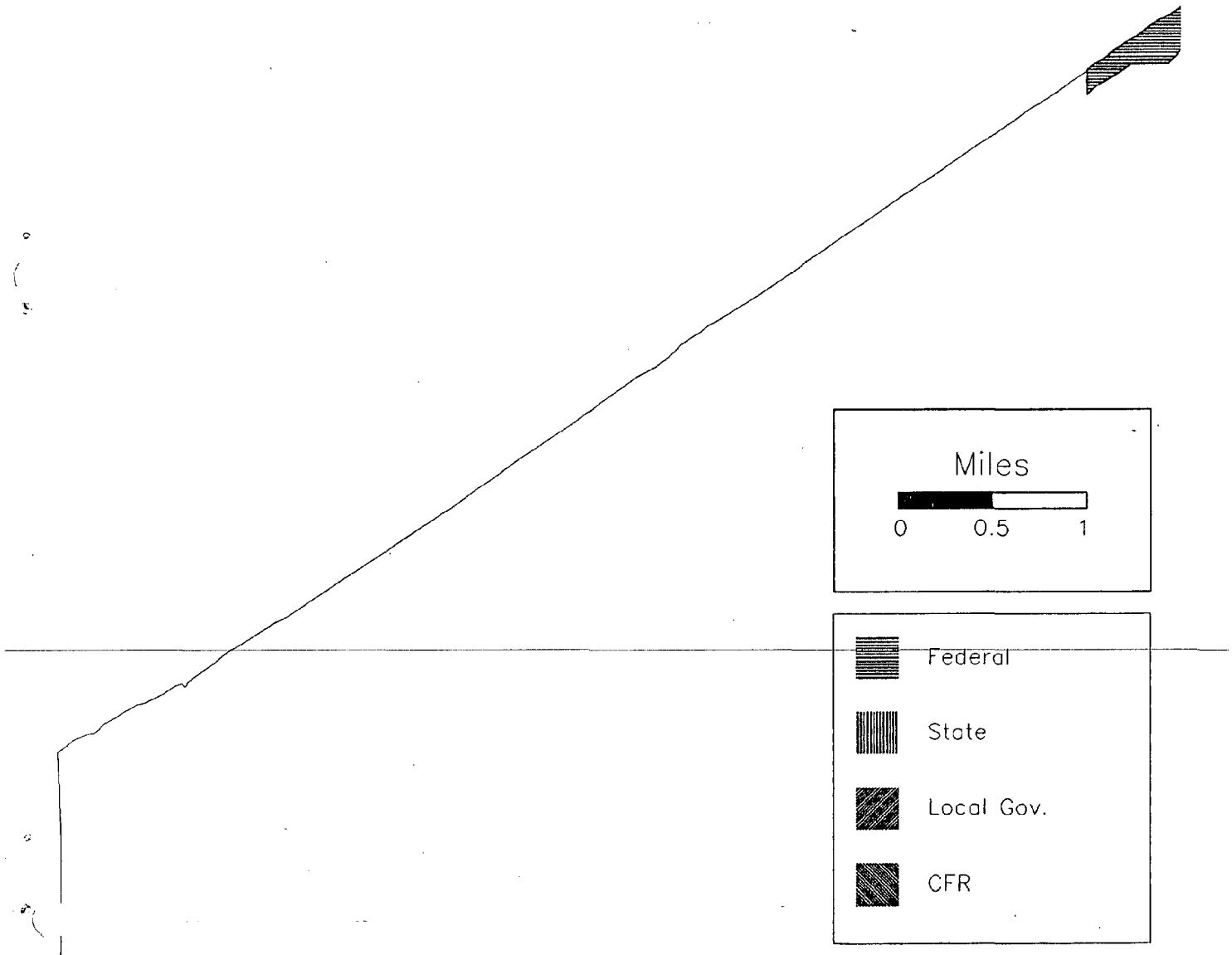
Land Ownership for T47N R19W





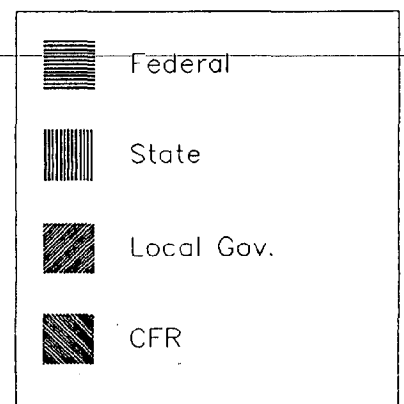
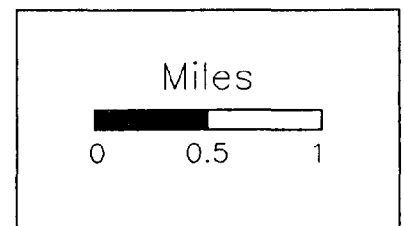
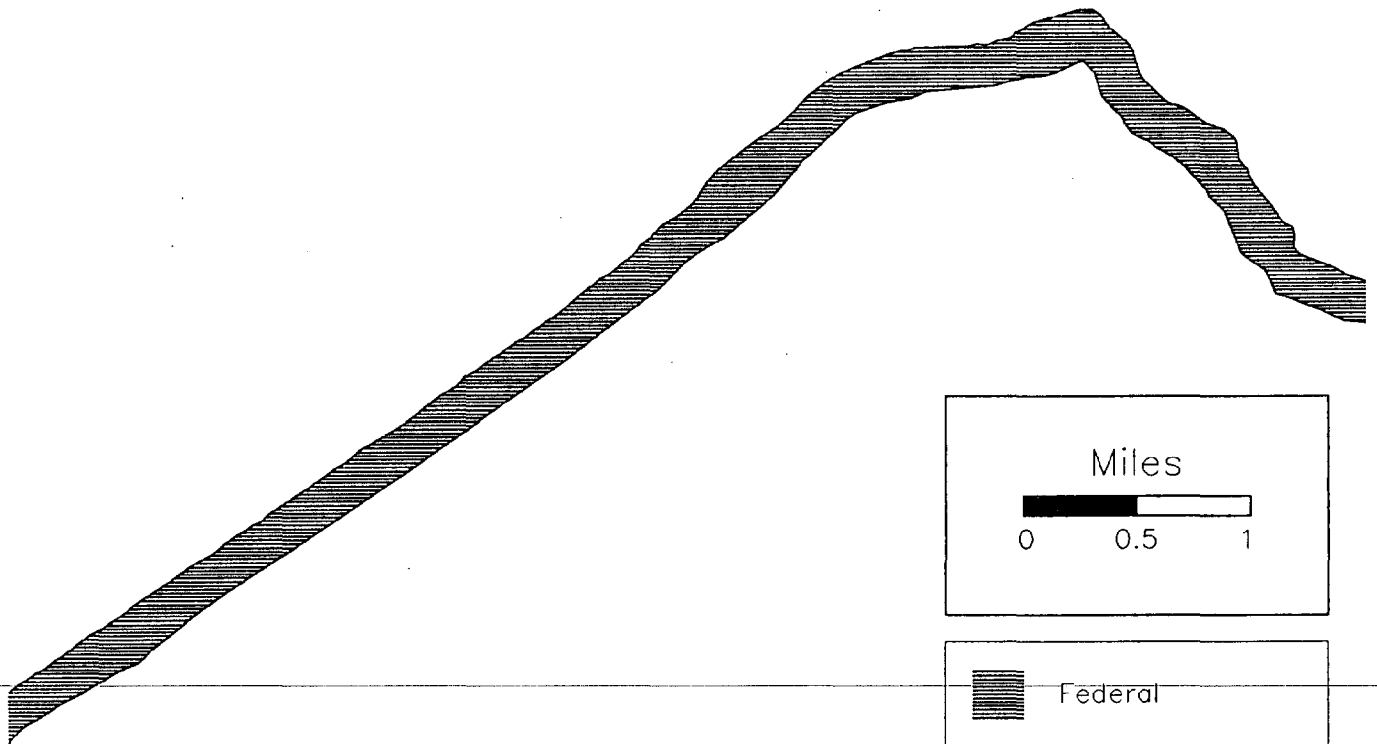
# Alger County Coastal Zone

Land Ownership for T48-49N R16W



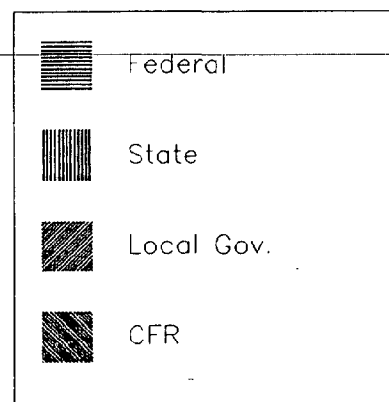
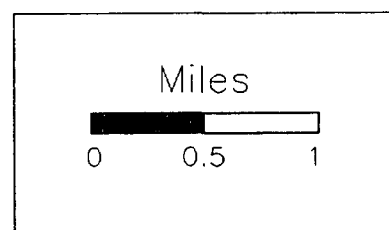
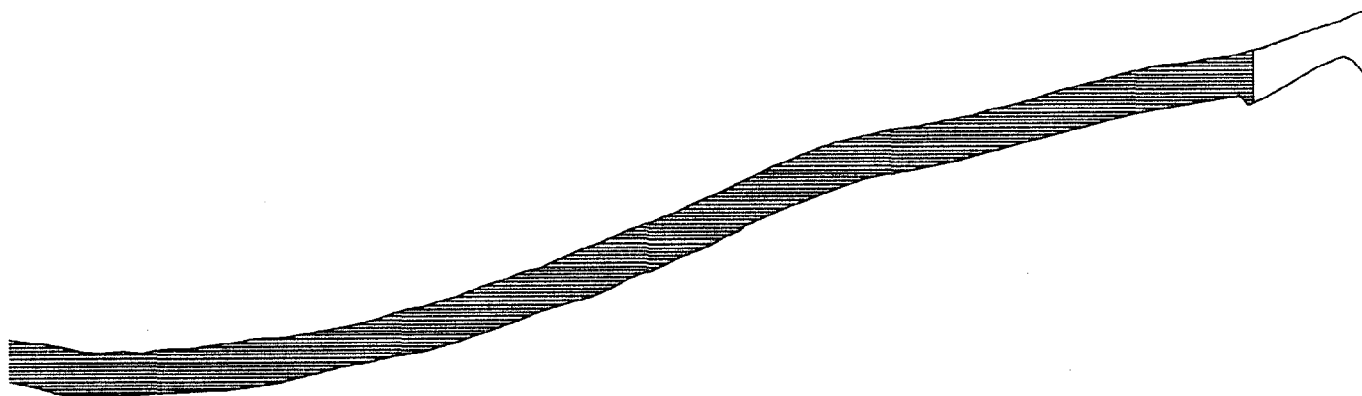
# Alger County Coastal Zone

Land Ownership for T49N R15W



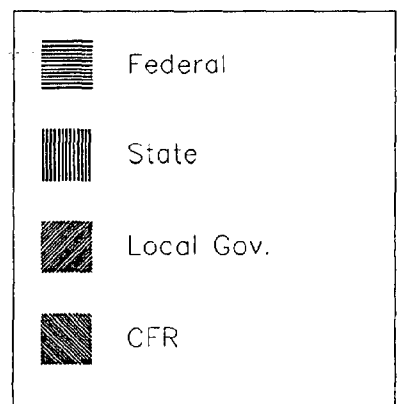
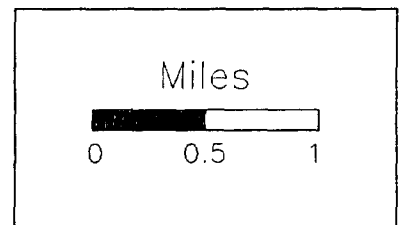
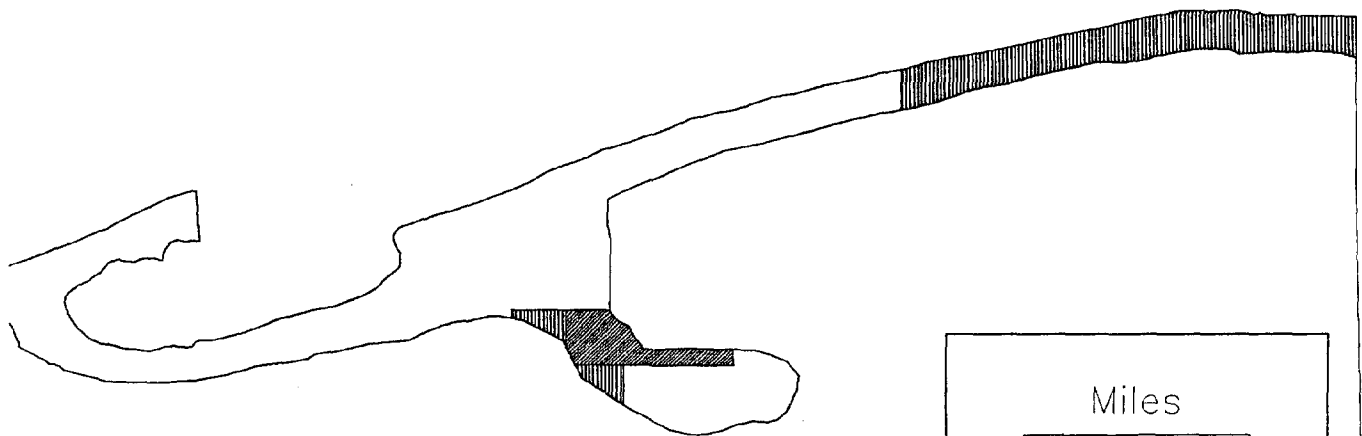
# Alger County Coastal Zone

Land Ownership for T49N R14W



# Alger County Coastal Zone

Land Ownership for T49-50N R13W



NOAA COASTAL SERVICES CTR LIBRARY



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